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ABSTRACT

This study explores the effects of an experimental training program on the achievement motivation level and other related characteristics for late adolescent age students. The five month training program consisted of the following: (1) Cognitive teaching: teaching the thoughts, feelings, and action strategies associated with the high achiever; (2) in group learning: experiencing the thoughts, feelings, and action strategies through (a) observation and modeling, and (b) simulated experiences; (3) out-group application: practicing learned principles through goal setting. An analysis of the data showed that the Experimental Training Program was significantly effective in increasing achievement motivation level and in reducing external control feelings. However, the treatment was ineffective in reducing fear of failure feelings. Further analysis revealed nonsignificant changes in grades and in instructors ratings of students. General aptitude was not critical in determining whether one could benefit from the program. A significant negative correlation between achievement motivation and external control feelings was found. (Author/WS)

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AN INVESTIGATION OF THE EFFECTS
OF AN EXPERIMENTAL TRAINING PROGRAM
USING ACHIEVEMENT MOTIVATION TRAINING CONCEPTS

by
Robert Leonard Smith

A dissertation submitted in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy
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in The University of Michigan
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Professor M. Clemens Johnson
Professor Edwin L. Miller
Professor Ralph C. Wenrich

ABSTRACT

AN INVESTIGATION OF THE EFFECTS OF AN EXPERIMENTAL TRAINING PROGRAM USING ACHIEVEMENT MOTIVATION TRAINING CONCEPTS

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Robert Leonard Smith

Chairman: Garry R. Walz

The purpose of this investigation was to explore the effects of an experimental training program on the achievement motivation level and other related characteristics for late adolescent age students. The following major hypotheses, stated in the null form, were investigated in this study:

1. Experimental group trainees will not exhibit significantly greater change in achievement motivation than a control group of trainees.
2. Experimental group trainees will not exhibit significantly greater change in internal control than a control group of trainees.
3. Experimental group trainees will not exhibit significantly greater change in test anxiety than a control group of trainees.
4. Experimental group trainees will not exhibit significantly greater change in grade point average than a control group of trainees.
5. Experimental group trainees will not exhibit significantly greater change in teacher assessments of trainee's work related behavior than a control group of trainees.
6. There will be no significant differences in aptitude between Experimental group trainees who demonstrate the greatest increase in achievement motivation and those who demonstrate the least.

A pre- post- control group design was used in this study.

The subjects were sixty twelfth grade students from a secondary area vocational-education center. An experimental group of thirty students was randomly selected and matched with a control group. Students were matched by sex, program enrolled, and previous performance in program. The following instruments were used in gathering pre- post- data: The Michigan State Motivation Scale, The Internal-External Scale, and The Test Anxiety Questionnaire. In addition, pre- post- data was gathered on student's performance. This included student's grades in program and the instructor's ratings of students according to The Instructor Rating Scale. The Differential Aptitude Test Battery was also administered to students to determine if participant's aptitude was significantly related to whether or not one would benefit from the training program.

Divided into three phases, the five month training program was described as consisting of: (1) Cognitive teaching: Teaching the thoughts, feelings, and action strategies associated with the high achiever, (2) In-group learning: Experiencing the thoughts, feelings, and action strategies through (a) Observation and modeling, and (b) Simulated experiences, (3) Out-group application: Practicing learned principles through goal setting.

Analysis of the data showed that the Experimental Training Program was significantly effective in increasing achievement motivation level and in reducing external control feelings. However, the treatment was ineffective in reducing fear of failure feelings. Further analysis revealed nonsignificant

changes in grades and instructor rating's of students. It was discovered that general aptitude was not critical in determining whether or not one could benefit from the program. A significant negative correlation between achievement motivation and external control feelings was found. The stepwise regression analysis revealed that past grades and instructor ratings were the only accurate predictors of final grade in program.

The following major conclusions were drawn:

1. Achievement motivation and internal control feelings can be affected through training, but more adequate operational definitions and ways of measuring change are needed.
2. Efforts to increase student's performance may require a more comprehensive design with a flexible methodology adapted to student characteristics.
3. Behavioral effects of achievement motivation training may not be observable in a short time span and may not necessarily manifest itself within the school setting.
4. A replication of this study, with certain modifications, is needed.

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CHAPTER I

INTRODUCTION TO THE STUDY

Introduction

This chapter begins by focusing on the characteristics that have been found to play a key role in occupational success. Chapter I is organized under the following main headings: (1) Introduction, (2) Purpose of the Study, (3) Population and Sample, (4) The Vocational Education Setting, (5) Need for the Study, (6) Theoretical Rationale of the Training Program, (7) Definitions, and (8) Summary.

Motivation is repeatedly cited as one of the most important elements that determines level of performance and performance outcome (Crites, 1969; Atkinson, 1966; Maslow, 1954). It has been shown that motivation, man's way of approaching a job, as well as his ability in working constructively with others, determines to a large degree his level of success. These characteristics may possibly be seen as having more overall salience in regard to successful employment than slight differences in aptitude or ability. Such characteristics as motivation, attitudes toward work, self regard, desire, drive, perserverance and interpersonal skill development become increasingly important when considered

in reference to the fact that: (1) Occupations continue to change so that one no longer finds himself in a single particular occupational area, performing the same function, but rather in a number of different roles within an occupational cluster. (2) Man changes occupational areas at a higher rate today than before. This could mean four or five significant occupational changes during one's working lifetime.

Within the last decade there has been accumulating evidence to believe that such characteristics as those stated above are learned, can be developed in individuals after early childhood, and can greatly affect the performance level of individuals in their jobs, at school, etc. (McClelland, 1969; Alschuler, 1970). Earlier investigations in this area have dealt mainly with the development of successful methods in working towards helping the under-achieving or low ability student to develop and reach his potential. More recent evidence has been published that centers on the importance of the "need to achieve" in individuals, and on the possibility that achievement motivation can be taught to secondary and post secondary students. Implications of the latter studies are that an increase in achievement motivation level can potentially affect one's performance within and outside of the school setting.

The research mentioned above focuses upon an important area of concern by people in business and education: employers,

administrators, teachers, and behavioral science specialists. Some of the findings are encouraging and demand further exploration, along with revision, expansion, and delimitation in order to be successfully incorporated into other settings. This investigation attempted to assess the effect of such a program that utilized, in part, achievement motivation training in its treatment and measured its effects on a number of carefully chosen variables.

Purpose of the Study

Specifically this study attempted to find further answers to the question: What specific treatment conditions will effectively modify or change certain behaviors and affectively increase level of achievement? Stated in terms of objectives the study attempted to:

1. Improve subjects' motivation to achieve.
2. Improve subjects' ability to accept greater responsibility for the outcome of events in their lives.
3. Improve subjects' ratings as given by instructors regarding a number of variables that are pertinent for successful employment.
4. Improve subjects' performance as determined by grade point average.
5. Improve subjects' ability to complete a task with a lower level of anxiety.

The following general hypotheses, stated in the null form, were investigated in this study. The research design was created to test these hypotheses.

Null Hypothesis I

Experimental group trainees will not exhibit significantly greater change in achievement motivation than a Control group of trainees.

Null Hypothesis II

Experimental group trainees will not exhibit significantly greater change in internal control than the Control group of trainees.

Null Hypothesis III

Experimental group trainees will not exhibit significantly greater change in test anxiety than the Control group of trainees.

Null Hypothesis IV

Experimental group trainees will not exhibit significantly greater change in teachers assessments of trainee's work related behavior than the Control group of trainees.

Null Hypothesis V

Experimental group trainees will not exhibit greater change in grade point average than the Control group of trainees.

Null Hypothesis VI

There will be no significant differences in aptitude between Experimental group trainees who demonstrate the

greatest increase in achievement motivation and those who demonstrate the least.

Null Hypothesis VII

There will be no significant positive correlation between (a) achievement motivation and internal-external control, and (b) achievement motivation and test anxiety.

All of the null hypotheses are included and described in more detail in Chapter three; Methodology of the Study.

In addition, in view of the contradictory findings of research studies on ways to maximize potential and/or to modify particular attitudes and behaviors, the investigator concluded that experimental studies were needed wherein treatment conditions designed to induce these behaviors were specified. The treatment conditions should be specific enough to allow replication of these conditions by other investigators.

Finally, recent investigations utilizing achievement motivation training programs, in business as well as in education, have produced some encouraging results. But the effectiveness of these training programs in different setting was questionable and warranted additional research.

The Population and Sample

The population drawn upon in this study were students enrolled at the Northeast Oakland Vocational Education

Center, located in Pontiac, Michigan. Nine vocational programs were offered at the center during its first year of operation. Students attending the center participate in their programs on a daily basis for either morning or afternoon classes and then are bussed back to their sending high school. The morning classes are from 8:15 until 10:30, while the afternoon classes are from 12:15 until 2:30. The Northeast Area Vocational Education Center was the first of four centers to offer courses in Michigan's Oakland County.

The total population from which the sample for this investigation was drawn consisted of twelfth grade students returning to the vocational center for their third semester. This population consisted of approximately sixty-two percent male and thirty-eight percent female. Of this total, seventeen percent was of minority group. Sixty twelfth grade returning students were randomly chosen for the investigation. Since the number of returning senior students was seventy-two, the sample was fairly well defined. The following data was obtained on each student; program enrolled, past performance record, and aptitude. The sample was then paired according to sex, (female-female, male-male) program enrolled, and past performance in program. Following the matching, one student from each of the thirty pairs was then randomly selected to participate in the training program. The remaining

thirty students, matched by program, sex, and past performance were utilized as the control group.

The group of students undergoing the training program were heterogeneous in regard to past performance and program area. Reasons for this were twofold: (1) Many of the students who completely failed previously at the center were not allowed to return the second year or had either dropped out or were dismissed from their sending high school. (2) McClelland (1969) found that few individuals, even highly successful entrepreneurs, exhibit high levels of achievement motivation. Thus, most individuals, despite past performance, are seen as having the potential for greater development in this particular area. These findings correlate with Otto's work (1967) in viewing individuals as seldom if ever, as tapping a high level of total potentiality.

The Vocational Education Setting

Vocational education is presently in an expansion stage. Today's changing status of this area is phrased extremely well by Johnson (1970), "The day is gone when vocational education was the shop class to which one relegated the student who could not or would not perform in academic courses." The national goal for vocational education in the early seventies is to double the secondary enrollments in occupational programs and to offer at least some occupational orientation and work experiences to all secondary students, including individuals enrolled in college preparatory programs. By

setting such a goal, the Division of Vocational and Technical Education of the U.S. Office of Education seems sensitive to the needs of today's society. The vocational technical area is seen as growing twice as fast as any other career training group, according to Minear (1970).

As a result of government support and the demand for skilled people, different means of vocational training have evolved over the years. Basically, training in this area can be broken down into two areas: post-secondary and secondary. Area vocational technical schools and community colleges are becoming the major vehicles for providing opportunities for two years of post-secondary vocational education. The second major area, the training of high school students, has received greater attention recently and seemingly will play an even greater role in the near future. This is evidenced by the goals set in this area at the secondary level by the United States Office of Education.

One of the more recent developments in the training of high school students in special skill areas has been the area vocational education centers. These centrally located centers, constructed as a separate unit of the local high schools, are designed and equipped with the most up-to-date laboratory facilities and educational equipment. The eleventh and twelfth grade students devote two and a half hours per day in learning a skill at the center. The students are still able to complete the remainder of their course work, as well as participate in extra curricular activities at their

home high school. This kind of facility, as described above, was the focus of the investigation. It is believed that these centers will be the focus for greater innovative and creative activities.

Need for the Study

Despite greater opportunities for training, we have witnessed in the past few decades an increasing concern over the accumulated loss of existing talent and manpower resources (McClelland and Winter, 1969). This concern has been expressed by all segments of society including: government personnel, people in business, and individual educators. The mounting problem has now drawn even closer scrutiny and is often seen as urgent by psychologists, sociologists, and social scientists. For example, according to Havighurst and his associates (1955), at least half of our best human material is not developed anywhere near capacity. This leads to the question, "Why is this the case and what are the salient variables that relate to one's achieving and being able to fully utilize his inner resources?"

Questions as the one stated above, have historically generated research focusing on the characteristics of persons low in achievement and individuals high in achievement, with the objective of establishing some relationship between personality traits and discrepant achievement behavior (Diener, 1960; Harrison, 1959; Roth and Meyerson, 1963; Russel, Clark, and Dinitz, 1956; Taylor, 1964). Roth and

Meyersburg (1963) indicated that the persons low in achievement, often called an underachiever in these studies, tend to have no clear system of goals or values, have frequent depressions and free-floating anxiety, and are prone to self-disparagement. Diener (1960) noted that persons high in achievement tend to have excellent study habits. Taylor (1964) arrived at the following conclusions after reviewing studies on the characteristics related to the achievers and the nonachievers:

<u>High Achiever Characteristics</u>	<u>Non-Achiever Characteristics</u>
Activities are centered around interests	Interests are non-academic
Goals are realistic	Unrealistic goals
Have positive self-value	Negative self value
Are well-disposed toward authority	More hostile toward authority
Are able to handle anxiety	Handles anxiety uneffectively
Have positive interpersonal relations	Low level interpersonal relations

More recent efforts in this area have focused upon the importance of motivation and its relationship to specific achievement outcomes and other personality characteristics (Atkinson, 1956; McClelland, 1968). One particular motive, the achievement motive, has drawn special attention. One's achievement motive or, need to achieve, involves a special way of planning to attain excellence, a set of strong feelings about doing well, and specific action strategies (Alschuler, 1970).

Twenty years of research has identified the following elements as characterizing the person with a high need to achieve: seems to treasure self-reliance and personal responsibility, prefers moderate or calculated risks, carefully plans his actions, and has high interest in feedback regarding his performance. Time usually moves rapidly for this person, and games of chance where his skill is not to be tested seem to hold little attraction for him (Alschuler, 1970).

Thus, a wave of research relating personality traits and achievement behavior has been produced through the prevailing concern of helping individuals attain and set goals for themselves, to reach maximum achievement levels and to become greater contributors to society. These studies have served as the impetus to attack the next hurdle related to the ensuing problem: "Once these characteristics are identified can they be further developed within individuals at various life stages?" Researchers have tried various means to bring about individual change. Many of the efforts in this area have met with contradictory results. The attempts to change behavior are too often simply classified according to the general nature of the intervention employed. For example, the investigator may define his treatment in vague terms such as nondirective or client centered. The description of the treatment may go no further than stating that participants were given a high level of freedom in saying what they felt and were encouraged to determine the direction of the

sessions. Another general description used is behavioral or reinforcement treatment. This is too often thought to be fully described by simply stating that relevant verbal responses of the participants were reinforced by the trainer. Due to their generality, studies of this kind have not been helpful in terms of replication and practical utilization.

Therefore, because of the present concern for developing the full potential of the individual and society, the lack of enough research defining treatment, and the recent evidence that achievement motivation level can possibly be changed, this investigation was undertaken. The results of this study could possibly: add insight into the problem of accumulation loss of individual potential, further explore if achievement motivation can be developed in adolescence, relate the need to achieve to other salient variables, and more clearly define a possible effective systematic training program that could be incorporated into other settings.

Theoretical Rationale of the Training Program

The rationale for conducting the program under its present form is based upon most recent findings of research in this area that has stressed increasing one's achievement level. Prior work has related achievement motivation to task performance and successful entrepreneurial behavior (Atkinson, 1965; Aronoff and Litwin, 1971). McClelland (1968) and Alschuler (1970) focus on the teaching of achievement motivation in a number of settings with different age groups.

There is some evidence to believe that achievement motivation level can be increased, and that the means in which it is accomplished can be incorporated in various settings. The underpinning regarding the theoretical approach in teaching such behavior, in a large part, comes from the idea that achievement thinking can be stimulated, practiced, and put to use; and thus, result in achieving behavior. The basic proposition is that everyone has a form of the achievement motive, mainly learned at an early age. Not everyone, however, has a thoroughly worked out complete cognitive network to describe what one feels like when striving toward the successful accomplishment of a task. Achievement motivation training is directed precisely at that point. Overall it is an effort to induce an individual to think more precisely about competition with a standard of excellence. In doing so, the individual is presented with a cognitive framework, around which his later thinking and behaving can be evaluated. McClelland has summarized, in the form of twelve propositions, the theoretical intent of the achievement motivation training plan.

1. The more reasons an individual has in advance to believe that he can, will, or should develop a motive, the more educational attempts designed to develop that motive are likely to succeed. . .
2. The more an individual perceives that developing a motive is consistent with the demands of reality (and reason), the more educational attempts designed to develop that motive are likely to succeed. . .
3. The more thoroughly an individual develops and clearly conceptualizes the associative network defining the motive, the more likely he is to develop the motive. . .

4. The more an individual can link the newly developed network to related actions, the more the change in both thought and action is likely to occur and endure. . .
5. The more an individual can link the newly conceptualized association-action complex (or motive) to events in his everyday life, the more likely the motive complex is to influence his thoughts and actions in situations outside the training experience.
6. The more an individual can perceive and experience the newly conceptualized motive as an improvement in the self-image, the more the motive is likely to influence his future thoughts and actions. . .
7. The more an individual can perceive and experience the newly conceptualized motive as an improvement on prevailing cultured values, the more the motive is likely to influence his future thoughts and actions. . .
8. The more an individual commits himself to achieving concrete goals in life related to the newly formed motive, the more the motive is likely to influence his future thoughts and actions. . .
9. The more an individual keeps a record of his progress toward achieving goals to which he is committed, the more the newly formed motive is likely to influence his future thoughts and actions. . .
10. Changes in motives are more likely to occur in an interpersonal atmosphere in which the individual feels warmly but honestly supported and respected by others as a person capable of guiding and directing his own future behavior. . .
11. Changes in motive are more likely to occur the more the setting dramatizes the importance of self-study and lifts it out of the routine of everyday life. . .
12. Changes in motives are more likely to occur and persist if the new motive is a sign of membership in a new reference group. . .

Definitions

1. **Achievement Motivation**
The achievement motive, or need to achieve, is represented by an individual's intense need for achievement, revealed by a persistent striving for accomplishment and excellence based on his own independent actions. Operationally, achievement motivation is defined as the scores on the Michigan State Motivation Scale.
2. **Student Performance**
Student performance is the level of achievement demonstrated by an individual in his particular program area. Operationally, this is the rating score obtained by the student on the Faculty Appraisal Sheet and the grade received in the program area.
3. **Locus of Control**
Locus of control is the degree to which one sees self as the determiner of outcomes. Internal control represents a person's belief that rewards follow from, or are contingent upon, his own behavior. External control represents the belief that rewards are controlled by forces outside himself and thus may occur independently of his own actions. Operationally, locus of control is defined as the score on the Rotter Internal-External Control Scale.
4. **Vocational Education Center**
The vocational education center is a centrally located facility, designed and equipped to provide vocational education for high school students in a particular school district. These centers usually have more up-to-date laboratory facilities and educational equipment than the high schools. The Northeast Oakland Vocational Education Center is an example of such a facility.
5. **Achievement Motivation Training**
Achievement motivation training consists of inputs directed to increase the salience of the achievement motive within the participants. Operationally, the program can be viewed in terms of three phases: 1. Cognitive teaching, 2. In-group practicing, 3. Out-group application.
6. **Fear of Failure**
Fear of failure is considered a motivational contributor to situations perceived as demanding excellence or success-failure. Operationally, the strength of the motive to avoid failure is measured by the Mandler-Sarason Test Anxiety Questionnaire (TAQ).

7. Achievement Thinking

Achievement Thinking consists of a network of thought sequences that relate to competitiveness for excellence. Picture cues are used to stimulate stories that are measured in terms of achievement thoughts produced. Operationally, the Test of Imagination is used to determine achievement thinking. The scoring device is similar to that utilized with the Thematic Apperception Test.

Summary

In conclusion, the investigator views the study as generating an immense amount of enthusiasm because it focuses upon an exciting and challenging area. This includes, both the particular setting of the investigation, which allows greater opportunity for many individuals, and the particular training program, centering about one's achievement motivation level so that new opportunities can be more fully utilized.

CHAPTER II

REVIEW OF THE LITERATURE

Introduction

To fully conceptualize the task of affecting achievement motivation level and achieving behavior, it is important to first focus on: (1) current ideas regarding motive acquisition and (2) factors that affect the development of a specific motive, the achievement motive. This background material will be followed by: (3) a review of studies that have related the achievement motive with other pertinent variables, and (4) an up-to-date report on studies that have attempted to increase achievement motivation through training programs in business and education.

Motive Acquisition

Research into motivation to verify many theoretical hypotheses has been particularly difficult because the methodology of observation must take into account the whole self in action. Practicalities of time and effort make it very difficult to set up systematically controlled educational programs designed to study and develop over years a complex personality characteristic as a motive. For this reason, theories of the essential aspects of motivation

tend to stem more from observational opportunities afforded by the environment. Despite these limitations, some general notions have been set forth regarding the acquisition of motives.

On the theoretical side, dominant views of personality formation suggest stable personality characteristics like motives are laid down in childhood. Behavioral theorists and psychoanalysts agree on this point (Madsen, 1966). Behavior theorists support this point in stating that social motives are learned by close association with reduction in certain biological drives like hunger, thirst, and physical discomfort. These drives, of course, play a greater role in childhood. Most psychoanalysts also see the adult motives as quite stable and formed during childhood resolution of conflicts.

On the basis of experiments in human motivation, McClelland rejects many of the prevailing theories of motivation which depend, "too much upon experiments with animals and are therefore unsatisfactory as explanations of the functions of the complicated non-biological motives" (Madsen, 1966). In a review of theoretical viewpoints on motivation, Madsen summarized McClelland's criticisms of these theories. First, McClelland is critical of the 'survival model' theories that explain motivation in terms of biologically defined survival needs, for the following reasons: (1) Not all survival needs produce a motive; some may and some may not, (2) It seems that biological

needs provide only a very partial basis for explaining how behavior is guided and controlled. Hull and Young are the major theorists of this particular group.

A second group, led by Hebb, see motivation determined by a stimulus pattern where there is a 'moderate discrepancy between expectation and perception' (Madsen, 1966). This theory is questioned for the following reasons: (1) One must know the relationship between past learning and present perceptions in order to set up a motive, (2) The theory is so general that the experimentalist trying to work with such a model is hard put to know when he is working with a motive or how to measure its effects.

McClelland and his associates, on the other hand, have stated at various times in the literature that motives are formed by pairing cues with affective arousal or with certain conditions that produce affective arousal. This is demonstrated somewhat by Hebb's studies on the nature of fear. For example, in one study, the sight of a detached plaster head produced negative affect for chimpanzees that led to diffuse autonomic responses that has been associated with negative affect in the past and which consequently evoked fear (Hebb, 1968). Hebb found that such avoidance responses continued until the situation changed or the animal 'adapted' to it. The main point is that affect, a strong feeling or emotion, resulted when certain discrepancies between expectations and perceptions existed. This coincides with the idea that motives are learned by pairing cues with affect, or the conditions that produce affect.

Whether one accepts the theory that the important psychogenic motives are learned, or instinctual, and that they are most likely related with primary pleasure and pain, the focus is still directed towards the importance of early learning in the formation of motives. Therefore, early childhood again seems to be a crucial time, allowing the youngster the opportunity to form strong generalized and persistent associations; and thus forming motives. In infancy more situations are associated with affective states. Pleasure and pain are experienced to a greater degree by the infant, who has not yet developed full discriminatory or symbolic capacities (McClelland, 1961). At the same time the infant is not clear about the connection between praise and a particular action. Therefore, the association becomes more congested and general, which according to McClelland, more difficult to extinguish later on. In contrast, the older child who has developed cognitive and symbolic skills can associate more clearly the relationship between the response and the reward.

Most theorists state that affective associations formed in early childhood are apt to be strong and very resistant to change. But, McClelland, as early as 1951, has stated that from the theoretical viewpoint, there is no reason why such associations could not be formed at any time in life, even though they are more apt to occur in childhood, particularly at the preverbal level.

The McClelland theory first emphasizes a strong belief that all motives are learned. Not even biological discomforts,

as hunger, or pleasure, as in sexual stimulation, are drives until they are associated with cues that signify their presence or absence. A series of empirical studies conducted by McClelland that presuppose his theory include: (1) Producing the hunger motive with different degrees of intensity, by letting subjects fast for various periods of time, (2) Producing the need for affiliation motive; by having the subjects write down on paper, which of the other members in the group they preferred, (3) Producing the achievement motive by having subjects complete problem solving tasks that were introduced as having varying degrees of importance upon their future careers.

Thus (McClelland, 1953, Ch. 2), in time, clusters of expectancies or associations grow up around affective experiences, many of which are not connected with biological needs. He states that these affectively toned associative networks are called motives and that they are arranged in a hierarchy of strength or importance within an individual. The strength of a motive is determined by the number of associations belonging to a particular cluster as compared to other associations an individual is able to produce at a given time. The need for achievement motive, has been typically measured in such a way: by counting the number of associations or references in an individual's answers that relate to achieving behavior; doing something well, competing against self or others, overcoming obstacles to achieve goals, etc. In viewing motives in this manner, some

of the mystery is therefore taken away as to what motives are and how they are developed. Less seems to harbor upon the unknown, unconscious, and unconcreate explanations of motive development.

Proper justice cannot be given here to all of the theories regarding how motives are developed. In part, this is due to: (1) the esotericness and quality of many of the theories which makes them too involved and lengthy to be of useful inclusion, and (2) the incompleteness of many of the theories and the lack of studies that clearly varify the hypotheses. Because of these reasons, the investigator, in many respects, agrees with Marx and Tombaugh (1967) that "one of the most sadly neglected aspects of behavioral science is the problem of the origin of motives."

The Achievement Motive

Whenever a person tries to perform well, as measured by some standard of excellence, he has achievement goals and is displaying achievement motivation (Alschular, 1970). The anatomy of achievement motivation has to some degree been worked on in the United States, as well as in many other countries such as: Japan, Australia, Germany, England and Italy. Phenomena which appears to be "achievement motivated" in early childhood include various behavior repetitions (Heckhausen, 1967), which Buhler (1919) interpreted as "function pleasure" and Piaget (1936) as circular reactions: particularly "wanting-to-do-it-alone."

Wendt (1961) stated it is also possible that the origin of risk-taking behaviors occurs at the time of first sitting-up and learning to walk, and that the mother's behavior during this time plays an important part in the development of the child's risk-taking behavior, which is later expressed in adulthood. However, Heckhausen and his associates (1967) disagree and see the above cited phenomena of "function pleasure", wanting-to-do-it-alone, and persistence in a task as precursor activities rather than the beginnings of achievement motivation. The structuring of the situation within an achievement related person-environment frame of reference, of which children become capable between the ages of three and three and a half, is seen as presupposing the beginning of achievement motivation development (Heckhausen, 1967).

Thus the origin of the achievement motive, according to Heckhausen, appears along with the cognitive step in maturing, which rarely comes before age three. This allows the above kind of structuring to take place. Heckhausen further states that within one year after the origin of the achievement motive, age four and a half, individual levels of achievement motivation can be clearly recognized. McClelland (1958) has confirmed this to some degree by individual risk-taking preferences in a ring-tossing game, involving five year-old children. The experience was used to demonstrate the moderate risk-taking behavior of the high need achiever. Participants who stood too close to

the peg simply were not competing and those standing too far from the peg took refuge in the notion that no one could be expected to achieve success against those odds. It was found that other students gaged themselves with regard to distance from the peg, thus competing for a standard of excellence with themselves or others and making the game a challenge.

Concentration and persistence in the pursuit of achievement goals is seen by some investigators to increase with age. Bailer (1961) observed the tendency to overcome failure over a period from four to fourteen years of age. Bailer found that when participants were faced with a choice between tasks which they had previously successfully solved or failed to solve, the older ones increasingly preferred to resume the unsolved task. This tendency has also been shown by Coppersmith (1960) in studying the achievement motivation orientation of eleven and twelve year olds. Additional longitudinal studies from ages one to fourteen and into adulthood have been conducted at Fels Research Institute. Some of their investigations show that there is a certain amount of stability in individual's level of achievement and disposition toward competition from age four through adulthood. Fels Research Institute also reported that striving for achievement related recognition and fear of failure were quite noticeable at the age of six.

The above finding have presented a sketch of some general stages of development regarding achievement motivation.

In addition, there has been some research focusing on family structure and sociocultural milieu upon level of achievement motivation. Although Argyle (1962) and Heckhausen (1967) point out that findings in this area are contradictory and erratic, some studies do converge. For example, Winterbottom (1958) obtained achievement scores of eight to ten year old boys. She then asked the mothers of these boys at what age they expected their sons to be independent, competent in various areas, and able to follow certain rules. Winterbottom found that the mothers of highly motivated boys, in comparison with mothers of less motivated boys, insisted more on independence during the first eight years of age. She also found that greater recognition was given for the high need achievement boy's accomplishments and that it was done in an affectionate manner.

Rosen (1959) conducted a similar study but with a different social class and ethnic group. He found that the social class was an important variable in Winterbottom's findings, as well as the kind of independence stressed at this age. For example, the independence often was given to the child to perform routine skills, so the parents would be relieved of the caretaking responsibility. It was also found that authoritarian and restrictive socialization practices resulted in low achievement motivation despite early child-centered self-reliance. Therefore, the kind of independence stressed, why it is given, and how it is given seems to be crucial.

In another study by Rosen and D'Andrade (1959) the design was directly focused upon independence as the center of gravity in upbringing, along with the different roles of father and mother. Their plan was to observe direct parental influence of nine to eleven year old boys working on achievement tasks. One of the tasks included building a tower with irregularly shaped blocks in the presence of parents. This was done at the parents home. The boys were divided into two groups: high and low need achievement groups, based upon thematic apperception test results. Other factors carefully matched included intelligence and socioeconomic status. Also during the experiment, the boys were blindfolded and allowed to use only one hand for the purpose of increasing the probability of getting help from the parents.

The Rosen and D'Andrade study produced the following results: (1) Both of the parents of the highly motivated sons set higher aspirations in regard to their son's abilities to achieve in comparison to the parents of the sons with low motivation scores. (2) The parents, especially the mothers, showed more appreciation and warmth. (3) The mothers of the sons with high motivation, not the fathers, reprimanded them for failure, gave more suggestions, instructions, and made more effort to urge their sons on. (4) The fathers were more detached (Rosen and D'Andrade, 1959).

The conclusions drawn by Rosen and D'Andrade state that there seem to be certain conditions which are more conducive

to high achievement-related value attitude development. This, according to their study, includes a mother who assumes the direct teaching role by reinforcing desirable behavior with praise or rewards and extinguishes undesirable behavior with punishment. This is done in a warm affective manner. Contrarily, the father respects and encourages the son's autonomy and self-reliance. He serves more as a model and interferes in less instances in an authoritarian way which would increase dependency. Such a model role, especially in the early years, has been cited by others as being of great importance regarding identification and formation of other personality characteristics (Bandura, 1962).

In summary, the above studies present some evidence regarding parental and socio-cultural effect upon achievement motivation, as well as, a recognized need for more informative investigations in this area. Even though there is a demand for tighter designs in such studies, the multitude of extraneous variables makes this impossible and allows the reader some degree of skepticism.

The Achievement Motive and Other Variables

Extensive effort has gone into exploring the relationship between achievement motivation and other variables. Performance and learning have been the major variables studied, although risk preference and persistence have also received careful and comprehensive treatment.

Achievement Motivation and Performance

Theoretically, one would expect high motivation to correlate with resulting performance. Thus, with other variables being equalized, the need to achieve score, which is a measure of the strength of achievement motivation, should relate to one's learning ability and performance at a task. Several studies have tested this hypothesis. An early investigation by Lowell (1950), incorporating a simple design, has been cited as one of the most definitive (Chalmers and DeMartino, 1965).

Lowell's design consisted of first obtaining need achievement test results of a group of male college students and then having them work on a twenty-minute scrambled word test. The test consisted of scrambled words; a series of letters that were to be constructed in a meaningful way. Two minutes were allowed for each of the pages which were randomized from subject to subject to equate for specific word difficulties. One week later, Lowell administered another form of the need achievement test to the same group of subjects and then proceeded to have this group solve some simple addition problems for a ten minute period.

Figure 1 summarized how the high and the low need achievement groups performed during different periods on the scrambled words task.

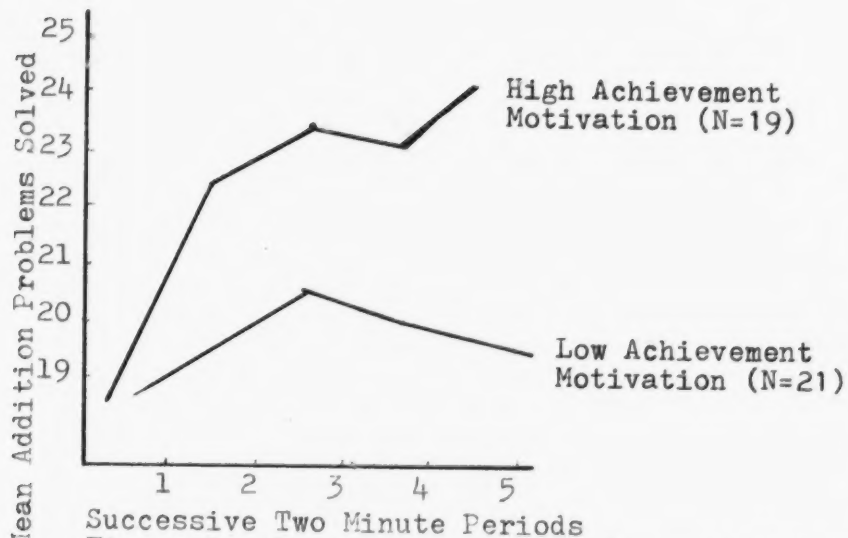


Figure 1.--Performance and Achievement Motivation

The high achievement motivation group showed a mean gain in output from the first to the last period of 5.32 words, whereas the low achievement motivation group showed a gain of only .43 words; a difference in gain of 4.89 words, which is well beyond the one percent level (Lowell, 1950). Lowell stated confirmation of his hypothesis that there would be statistically significant greater learning in the high achievement motivation group as compared to the low achievement group.

Figure 2 shows the results of the addition task in Lowell's investigation.

The high achievement motivation subjects solved more problems at every point in the test which brought their overall output significantly higher than the low achievement motivation subjects. Lowell used the t test and found significance at the .05 level.

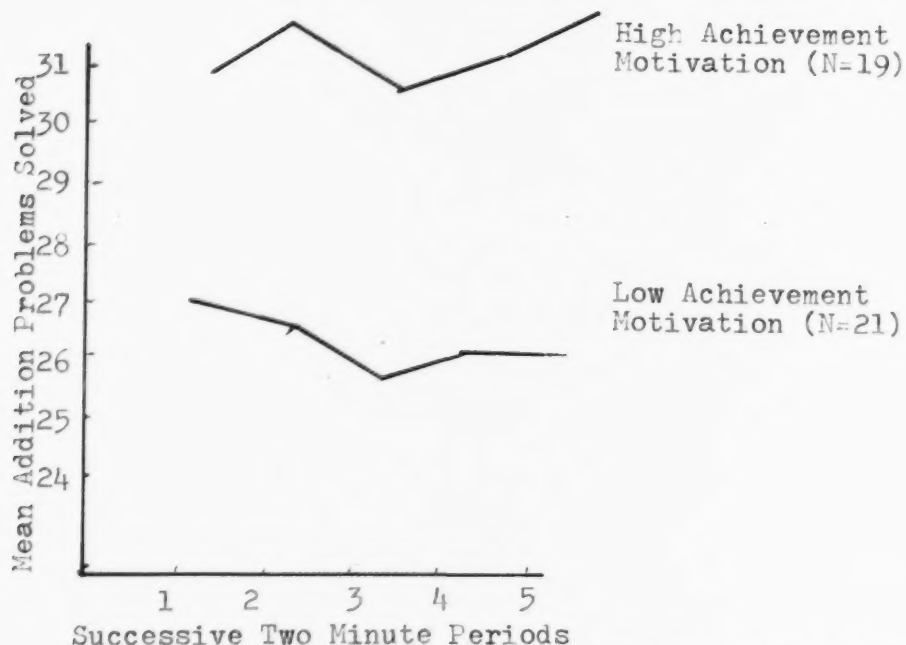


Figure 2.--Performance and Achievement Motivation

Since 1950 a number of studies have been conducted focusing upon achievement motivation and prediction of achievement related performance (McClelland, Atkinson, Clark, and Lowell, 1953; Atkinson, 1958; French, 1958). In conclusion, studies have shown the achievement motivation generally enhances achievement related performance.

Achievement Motivation and Risk Preference

Risk preference is another area that has received considerable attention in relation to the achievement motive. In fact, enough evidence has been accumulated to clearly identify the high achiever as a moderate risk-taker (McClelland, 1968; Alschuler, 1970). For example, McClelland has pointed out that the businessman knows that running a company involves taking certain risks just as

throwing a ring at a peg from any distance involves taking a risk of missing. But he tries to find concrete ways of reducing the risk: not making it too easy as to eliminate competition, or too difficult to avoid reasonable expectation of success. McClelland has shown this to be true for children with high achievement motivation who prefer to take moderate or calculated risks in a ring toss game, rather than taking very safe or highly speculative chances.

In another experiment, Clark, Teevan, and Ricciuti (1956) produced similar results with college students. In their experiment, prior to taking a final exam, college students were asked a series of questions centering about grade expectation, affective reactions to grades, and the grades they would settle for if they didn't take the final exam. A number of indices were derived from responses to these questions which classified students as hopeful of success, fearful of failure or intermediate. It was found that the students achievement motivation scores were significantly higher for the intermediate group that was classified as neither setting their aspirations at extremely high or low levels. In summary, taking moderate risks, leaving as little up to chance as possible, and setting realistic goals have become major character traits associated with individuals possessing a high need to achieve.

Achievement Motivation and Persistence

Studies by Winterbottom (1958) and French and Thomas (1958) investigated the hypothesis that subjects with high

achievement motivation show greater persistence in completing a task. Winterbottom (1958) studied eight year old boys in puzzle solving situations. During the experiment each boy was given the opportunity to ask for help whenever he wanted it. The subjects were also offered help and rest periods during different times in the experiment. Winterbottom obtained need to achieve scores on each of the twenty-nine subjects. The results of the study showed that boys with high need to achieve less frequently requested help, and more often refused an invitation to stop work and rest than did boys with low levels of need to achieve. Conclusions drawn were, that the evidence obtained related persistence to achievement motivation.

French and Thomas (1958) also found a positive relationship between persistence at a task and achievement motivation levels. Ninety-two subjects from an Air Force base were included in this study. A complicated mechanical problem was the task. The French Test of Insight was used as a measure of achievement motivation. Their results correlated with Winterbottoms, that related high need achievement with high levels of persistence at a task.

Achievement motivation, perception, and memory

There have been several experiments that have compared achievement motivation to perception and memory. The findings are similar to those reported in one of the earliest works by McClelland and Liberman (1949). In that particular investigation, the effect of need achievement on the recogni-

tion of need related words was studied. The experimenters first obtained need achievement scores on their subjects. Following this, they began measuring how quickly subjects could recognize achievement related, security related and neutral words. These words were exposed repeatedly at increasing illuminations for only .01 seconds. Results showed that subjects with high need achievement scores recognized words like success and strive faster than low need achievement subjects. It was found that subjects in the lowest need achievement ranks showed no particular trend in locating either positive or negative achievement words. The middle third of need achievement subjects showed slower recognition for negative achievement words as: unable or failure.

No longitudinal recall studies, relating achievement motivation to perception and memory, were found by the investigator.

Achievement motivation and conformity

McClelland's theory of the development of the achievement motive views the person high in need achievement as one who has internalized the standards of excellence with which he is competing (Atkinson, 1958). McClelland (1953) has described this person as inner-directed and less susceptible to social influence in conformity situations. Some findings in this area have shown need achievement to be negatively related to conformity (Atkinson, 1955). But further interpretation (Burdick, 1955) concluded that a

person with high need achievement usually conforms in situations in which conformity leads to achievement. Also strong motivation to be successful may induce a person to conform to majority opinion in order to satisfy the desire to be correct (Atkinson, 1959).

Achievement motivation and behavior

The question often has been asked as to how do high achievement oriented individuals behave. Laboratory findings by McClelland (1961) have shown that such individuals think more often in achievement terms. This is evidenced by extensive testing. The most common measure utilized has been the Thematic Apperception Test, which codes subjects' responses to verbal cues: stories according to achievement related behavior. Comparisons of high achievement scores on the TAT and characteristics of individuals involved have produced the following conclusions regarding behavioral characteristics (Alschuler, 1970; McClelland, 1961, 1969). It has been shown that such people set moderately difficult goals for themselves. These goals are not too easy, thus not being a challenge to the individual, nor too difficult, which could mean avoiding involvement of any risk. High need achievement people therefore try to maximize the possibility of obtaining achievement satisfaction. These people also like taking personal responsibility for solving problems and therefore receive greater satisfaction in their accomplishments. They are less likely to gravitate toward

situations that depend on luck or circumstances beyond their control. The third most common characteristic of high need achievers is that they like to obtain concrete feedback in regard to their performance. Feedback is sought and utilized to further develop their skills and increase the probability of success. Finally, the high need achiever is one who thoroughly explores his environment to find tasks he can solve with high degrees of satisfaction.

In conclusion, the above characteristics are the four most common ones associated with the high need achiever that have been observed through laboratory and in real life situations during the past two decades. Many of these characteristic patterns have been observed, as well as taught, in connection with various simulated business games. The most common game used in such studies was invented by Litwin and Ciarlo (1959). In the Litwin and Ciarlo game, each participant is to complete the task of constructing various models made out of tinker toys. He is given information regarding cost of parts, time allowed, and selling price of the end products. A contract regarding production goal is then completed by each of the participants. Thus, in this experience, goal setting takes place, personal responsibility is allowed, and the opportunity is present to give and utilize feedback. The origami game has been also used in the same context as the Litwin and Ciarlo Business Game.

Achievement motivation and economic growth

The argument has been developed that need for achievement is a key factor in economic growth of countries (McClelland, The Achieving Society, 1961). This argument is supported to some degree by the content analysis of favorite literature in various societies throughout time. McClelland and his associates obtained, through content analysis, an achievement score of the ideology of various countries. This score was then compared to the economic growth of that particular country. It was found, for example, that when need achievement content was coded in children's textbooks in various countries, that those same countries who scored high in need achievement in 1925 and in 1950 subsequently grew at a much faster rate than the countries that scored lower (McClelland, 1961). Further evidence was obtained when using various criteria as a valid measure of economic growth in modern times. This was done by correlating the production of electricity with the measurement of achievement values. McClelland, again found a high degree of correlation.

In some cases, a delay of fifty years was found between the time of highest achievement valuation and peak economic growth. McClelland has explained this by stating that it takes time to produce leaders and to get these people into key positions, which most often comes between ages forty and fifty.

Greater detailed evidence of the relationship between achievement motivation and economic growth is found in McClelland's Achieving Society, 1961. Presently, despite the general measure of achievement orientation utilized there has been little critical evaluation of this argument.

Many other variables besides those reported here have been related to achievement motivation. The relationship between achievement motivation and these variables are not as clear as the relationships cited in the above studies, and thus are too tentative to be included in any detail.

Increasing Achievement Motivation

Investigations focusing in the direction of increasing achievement motivation and achievement related behavior have taken place at Harvard University since 1960 under the direction of David C. McClelland. An achievement motivation training program has been developed as a result of this research. Several attempts have been made to affect achievement motivation or related behavior by incorporating such a training program in business and education.

Achievement Motivation Training in Business

McClelland (1969) has reported results of two achievement motivation training programs given to businessmen in India; 1963, 1964. Aronoff and Litwin (1971) have reported results of a similar achievement motivation training program given to a group of business executives in the United States.

Similar training programs have been conducted elsewhere. The goals of the training programs for businessmen, as well as the general nature of the programs, have been found to be highly consistent. Therefore, rather than to describe treatment separately in all the achievement motivation training courses conducted with businessmen, the following statement of goals and nature of the program by McClelland should be sufficient.

Goals of the Course

1. The course seeks to increase entrepreneurial spirit and improve interpersonal competence among the participants by emphasizing motivation, planning, and cooperative effort, rather than technical skills.
2. The course is basically one of self-development. Attention is focused on the self, and methods are presented for self-directed motivation change. Attention is given to three approaches to greater self-knowledge and understanding of motives:
 - A. The roots of values, attitudes, and motives are examined. Here the familial and cultural effects on the individual's images of himself and his world are examined.
 - B. Each individual is guided in examining his characteristic modes of behavior as perceived by those about him.
 - C. He is also encouraged to examine his fantasies and his aspirations in relation to this actual behavior.
 - D. A continuing theme throughout the course is that participants can initiate and control change by setting reasonable goals for change in themselves, in their firms, and in their area, and that this can lead to rapid economic growth for the individual and for the area.

Nature of the Program

To begin with, evidence is presented showing how achievement motivation or the "entrepreneurial spirit" is related to performance and success, and how such a spirit has contributed to national economic growth. Participants spend some time studying these research findings and how and why achievement motivation is related to improved performance.

1. Participants are given an opportunity to analyze their own spontaneous thinking or imagination and to score this material for motivational content according to well defined scoring procedures. The purpose is to help them recognize achievement thinking in its various aspects so that they can reproduce it in their thoughts and, therefore, in their actions.
2. Participants are encouraged to use the understanding of their own motivation and thinking to evaluate their approach to their work; to set realistic challenging goals for themselves.
3. Participants practice "Achievement Thinking" by learning to perceive job situations, problems, and possibilities in achievement terms. They engage in achievement related activities in a simulated business situation. Here they become aware of the relationship between achievement thinking and entrepreneurial actions.
4. Cases of successful entrepreneurs and sometimes entrepreneurs in person are presented to the group to enable the participants to see the relationship between successful business functioning and achievement thinking and also to understand the origins of entrepreneurial behavior.
5. Participants are, throughout the course, given an opportunity to experience and internalize the characteristics of a successful entrepreneur. This is done through (3) and (4) and by lectures, discussions, and demonstrations involving creative problem-solving and risk-taking.

6. The individual is encouraged to write an autobiography, to make plans for his future, to take the practical steps and make the commitments necessary to fulfill the personal goals he has set for himself. Personal counseling sessions are arranged for individuals to obtain better self-knowledge, more realistic appraisal of goals, and more creative ways of attaining them.
7. Participants are encouraged to examine their relations with others in the group throughout the course. In small and large groups, they are given opportunities to understand the needs of others and to help them in solving their problems.
8. The participants are given practice in aiding and supporting one another in group activities. This is designed to increase cooperation upon return to their area and to increase the probability of mutual reinforcement for one another in the future.

(McClelland, 1969, p. 150-151)

In McClelland's 1963 program given to businessmen in the Bombay area, a measure of unusual entrepreneurial activity was used to rate participants for two years prior to the training program and two years following the program. Each participant filled out a questionnaire regarding his job activities and pay raises. The participant's work associates were interviewed about his job activities. This information was compiled to obtain a rating on an activity score sheet, (table 2.1). According to McClelland (1965, p. 332), "of the thirty on whom information was available, twenty seven percent had been unusually active before the course, sixty seven after the course ($p > .01$). In a control group chosen at random from applicants who were unable to enter the

course, nineteen per cent were active before 1963, and twenty seven per cent since 1963."

TABLE 2.1

Business Activity Code

I. Activities Scored as -1

1. Increased activity with family or religious organizations, which involves paying less attention to business.
2. Demotion--less pay, lower level responsibilities, being fired.

II. Activities Scored as 0

1. Person appears blocked, helpless in the face of an overpowering situation, e.g., as a non-relative in a family firm. Government restrictions prevent expansion, or personnel policies of firm block advancement.
2. Firm's business up--but not due to his specific acts.
3. Improvements in family or personal life.
4. Routine job advancement, normal pay increases or bonuses.

III. Activities Scored as +1

1. Specific plans to improve his qualification or his business--some relevant action taken (e.g., taking a course in accounting which qualifies him for a better job, planning to set up a new plant).
2. Increased activity with voluntary business organization aimed at improving general business conditions or his standing in the community: e.g., Rotary, Club, professional organizations.
3. Specific change in his interest, concern or involvement in his business (e.g., goes to work more often, earlier, etc.).

IV. Activities Scored as +2

1. Specific action taken which has improved procedures, e.g., he has simplified reports of agents so that they can post them daily, or he has put new products in production (e.g., cast steel bogies).
2. Unusual increase in firm's business due to man's activities.

3. Salary increases or promotions which are definitely unusual.
4. Goes into business for himself.

(McClelland, 1969, p. 81)

A second study by McClelland (1964) consisted of four courses given to businessmen in the city of Kakinada in Andhra Pradesh, India. An experimental group of fifty-two small businessmen was matched with a control group of comparable size according to various economic indexes. Trained and untrained businessmen were then measured, using a version of the Activity Code Guide, (table 2.1). Of these men, twenty five per cent had been unusually active in the two year period before the course, and sixty five per cent were unusually active immediately afterwards ($p < .01$) (McClelland, 1965). Despite initial positive results, the investigators stated that more control data and refined measures were needed.

Aronoff and Litwin conducted an achievement motivation training program for middle age executives from a major American corporation. The sixteen men, all college graduates, ranged from age thirty one to fifty one. The achievement motivation trained men were matched with a control group from the same corporation who participated in a four week management development course. In a two year follow-up on eleven of the original sixteen trainees that were still with the corporation, significant advances were made by the men who took the achievement motivation training in comparison

to the control group. Significant changes included rises in salary of over ten per cent a year and or unusual rate of advancement (Aronoff and Litwin, 1971). An activity coding guide similar to that reported in table 2.1 was used as a measure of advancement activity.

Achievement motivation training has also been conducted with Negro Americans. There is some documentation that lower class Negroes are low in need achievement (Rosen, 1959), and that the Negro community as a whole has not been highly entrepreneurial. Certainly, opportunity has had a great deal to play in creating the situation.

In an achievement motivation training program reported by McClelland (1969) most participants were in their thirties and sixteen of the nineteen were black. Some had criminal records and many were civil rights leaders. The results of this program run in Boston revealed that two years later, eight of the sixteen Negro trained men received a score of +2 according to the coding scheme. The average activity score for the group was 1.21. Since the 1966 training program, several of the participants set up a new organization called the Massachusetts Achievement Trainers Inc. (MAT). Since then the company has successfully undertaken a number of motivation jobs in training minority groups.

It should be noted that there were many other psychological and material inputs into the Negro ghetto areas during the time of the above investigation which could contaminate the cause effect relationship.

One of the earliest studies to investigate the effects of various types of training courses upon the achievement activity took place in Mexico City, 1961. The average age of the participants, of which many were bankers, was thirty five. The need achievement training course was taught along with the regular traditional course in increasing business practices. McClelland (1969) reported that the yield measures, obtained three years later, gave no indication that either course significantly affected the mean activity level of the participants. There was no difference in activity between the two courses.

Some possible reasons cited for no affect in the above study include: this was the first need achievement course taught to businessmen, the trainers had to teach it in Spanish, and the follow-up measures were based on less adequate information than in the other studies of this nature.

Summary of Studies in Business

In reviewing the above investigations, a fairly high degree of success seems to be evidenced with the achievement motivation training programs. Many studies cite positive results in their follow-up reports concerning participants' business activity level. It should be noted that a standard business activity code was utilized in the reports which makes the effect of the training only as valid as the single instrument's sensitivity in recording change in activity level. Only the one early training program conducted in Mexico City

failed to produce positive effects of the training program.

It should be recognized that the opportunity to change, or achieve, must be present along with one's increased motivational level. This opportunity may have been made available in many of the above cited business environments. Alschuler and others (1970) see similar opportunities needed in education along with the chance to explore motivational determinants.

Achievement Motivation Training in Education

One of the earliest attempts to utilize achievement motivation principles in the school setting was made by Burris (1958). His purpose was to change school involvement by using achievement motivation counseling with sixty six students who were freshmen at Indiana University. The subjects were divided into three groups. An experimental group received eight forty minute counseling sessions during the first semester. Counseling sessions centered about student's goals and how they could be achieved. The need achievement scoring system was used as a guideline for the sessions. Control group I was given regular counseling, not focusing on achievement behaviors. Control group II was not seen by the experimenter.

As dependent measures of success, Burris used grades and S.R.A. Reading Record Scores. No significant pre-post differences were found for S.R.A. Reading Record Scores in

the experiment. An analysis of variance of the difference in grades for experimental and control groups between Fall and mid-Spring semester produced significance at the .01 level (Burris, 1958). With the assumption that grade differences are an accurate indication of change, Burris felt that the treatment led to increased student effort.

Kolb (1965) followed with a study using achievement motivation training with a group of underachieving high school boys attending summer school at Brown University. Students were selected on the basis of having IQ scores (120 and above), and low grades (C or lower). Kolb utilized the following activities in his study: teaching characteristics of people with high need to achieve, experimenting with learned behaviors through simulated games, completing need achievement tests, and learning the scoring system, understanding risk-taking behavior, and discussing learned concepts in relation to self. Kolb used a system, reported in Warner, Mecker, and Eells (1949), to rate the socioeconomic status of students. Father's occupation was the major criterion for rating the SES.

As his dependent variables, Kolb used the Stanford Achievement Test change scores, along with grade point average change scores. No significant changes were found in Stanford Achievement Test score results. Grade point averages for the following fall semester were obtained for most of the experimental and control subjects. Kolb reports finding "that the total grade average of high SES experimental

subjects improved more than the controls in the following semester." Kolb also found the trend reversed for the low SES experimentals. In most cases the low SES experimental improved less than the control subjects.

McClelland (1967) reported a study conducted in a Boston suburban school system. This investigation involved tenth grade students, described as 'seat warmers'. They were invited to participate in an achievement motivation course for people with unused potential. The final sample used in this study was small; eight student participants in the Fall of 1966, and twelve students in the Spring of 1967. The attrition rate for this group was quite high; two of the eight students dropped from the first group, and eight of twelve dropped from the second group. Ten students completed the training. A control group, matched for IQ and grades was also utilized in the experiment. The results revealed that seven of the nine fully trained boys gained at least a letter grade step in their averages following treatment. Only three of the controls showed such a gain. The change in grades proved to be significant at $p < .04$ (McClelland, 1967). Other measures of academic effort, such as absences from school and interview data secured by McClelland, showed some evidence that the training produced a measurable increase in academic effort.

In another study in this area, (Ryals, 1969) a five day achievement motivation workshop was conducted for teachers, who then served as trainers in a four weekend training

program for students. A camp site was used for training one group of students, while the high school setting was utilized for training a second group of student participants. Seventeen of the tenth graders and twenty four of the eighth grade students attended all four weekend meetings at the camp. Twenty seven of the tenth grade students and nineteen of the eighth grade students attended all sessions at the high school.

Stanford Achievement Test scores and grades were used as the two main dependent variables studied. The science scores on the Stanford Achievement Test supported the training program, while the social science test scores on the same test did not. Grade point average in Ryals study showed a slight supporting trend for the experimental group.

In a study conducted at the University of Hawaii (Tang, 1970) treatment was designed to induce academic achievement behavior among eleventh and twelfth grade students. The subjects were thirty eight students whose grade point average was more than one standard deviation below their predicted level, according to standardized test results. Fifteen subjects participated in what was called achievement counseling (Tang, 1970). The program consisted of a combination of affective and cognitive inputs to increase achievement behavior. Goal setting and planning behavior were some of the inputs included in Tang's training program that resembled sessions in other achievement motivation training programs conducted in education.

Tang reported significant results in academic motivation when comparing the achievement counseled groups to the regular counseled and the noncounseled groups. Farquhars' (1963) Michigan State Motivation Scales were used to measure motivation to achieve. Grade point average was also used as a dependent variable. Tang found no significant difference in g.p.a. between the two counseled groups after treatment. No significant differences were found in school attendance, which was also utilized as a dependent variable in Tang's research.

Alschuler (1970) reported the results of achievement motivation training with tenth grade students enrolled in an elementary business principles class. A comparison group consisted of tenth grade students enrolled in a bookkeeping class. The class met for three periods a week during the last half of the first semester. The total training consisted of twenty two hours. There were twenty two students in the experimental group and twenty eight students in the control group. Changes in grade point averages from ninth to tenth and from ninth to eleventh grades were analyzed separately for boys and for girls. Alschuler used four separate analysis of covariances. Significant results in the study were an increase in boys grade point average by about one third of a letter grade at the end of the tenth grade. Overall the results revealed a slight affect of treatment on g.p.a. which was limited to boys only.

Summary of Studies in Education

In summary, there is some encouraging evidence regarding the effects of achievement motivation training in education as there was in the studies involving businessmen. But there is room for some degree of skepticism, mainly since most results were marginal and the dependent variables were questionable. For example, the studies utilizing an analysis of grade change scores have been severely criticized by Lord (1963) and others.

Burris' study did not take into account initial grade average differences which, according to Thorndike (1963), could have been better controlled by using analysis of covariance, rather than analysis of variance.

The conclusions by Kolb involving the importance of socioeconomic status raises some questions regarding how representative was the sample when considering the noncollege bound student. The investigation by McClelland would have to be considered as a pilot because of the small sample.

Despite the above weaknesses of studies in this area, it is encouraging that some measures of achievement behavior have been affected. The research has revealed that such changes can take place in various settings and with different age groups. Therefore, the results offer enough convincing support to believe that achievement motivation training can be a valuable method for increasing achieving behavior of individuals beyond the childhood years.

CHAPTER III

METHODOLOGY

Introduction

The previous chapter presented evidence that certain training programs have the potential of inducing academic behavior. The programs, under the title of achievement motivation training, have been incorporated at different grade levels in junior and senior high schools, as well as in business settings. Because of marginal findings in this area, questions are still asked as to: (1) whether such a training program can in fact increase one's achievement motivation, and (2) what effect does such an increase have upon one's general academic or achieving behavior? The present study was designed to answer these questions, by measuring the effects of a similar training program incorporated with twelfth grade students at an area vocational education center.

This chapter is organized in the following manner. Null hypotheses are first listed. An explanation of sample selection procedures is then discussed. An introduction of the training program is presented, followed by a comprehensive overview of the training program design and a complete outline of specific training program content. The measuring instruments utilized in the investigation are fully described.

The chapter is concluded by an explanation of the data collection procedures and the data analysis.

Null Hypotheses

The research design for this study was created to test the following hypotheses. In general, these statements relate to the following questions: What are the effects of achievement motivation training upon the levels of academic motivation to achieve and achieving behavior? Is achievement motivation training more effective with individuals possessing specific aptitude levels and academic histories? What are the correlates of achievement motivation and achieving behavior?

Null Hypothesis I

Experimental group trainees will not exhibit significantly greater change in achievement motivation than a control group of trainees.

Null Hypothesis II

The level of achievement motivation in student trainees will not change significantly as a result of the Experimental treatment.

Null Hypothesis III

Experimental group trainees will not exhibit significantly greater change in internal control than the control group of trainees.

Null Hypothesis IV

The level of Internal-External control of student trainees will not change significantly as a result of the Experimental treatment.

Null Hypothesis V

Experimental group trainees will not exhibit significantly greater change in test anxiety than the control group of trainees.

Null Hypothesis VI

The level of test anxiety of student trainees will not change significantly as a result of the Experimental treatment.

Null Hypothesis VII

Experimental group trainees will not exhibit significantly greater change in teachers assessments of trainee's work related behavior than the control group of trainees.

Null Hypothesis VIII

Teacher assessments of trainee work related behavior will not change significantly as a result of the Experimental treatment.

Null Hypothesis IX

Experimental group trainees will not exhibit greater change in grade point average than the control group of trainees.

Null Hypothesis X

Grade point average will not change significantly as a result of the Experimental treatment.

Null Hypothesis XI

There will be no significant differences in aptitude between Experimental group trainees who demonstrate the greatest increase in achievement motivation and those who demonstrate the least.

Null Hypothesis XII

There will be no significant differences in initial level of achievement motivation between Experimental group trainees who demonstrate the greatest increase in achievement motivation and those who demonstrate the least.

Null Hypothesis XIII

There will be no significant positive correlation between (a) achievement motivation and internal-external control, and (b) achievement motivation and test anxiety.

Null Hypothesis XIV

There will be no significant positive correlation between (a) achievement motivation and teacher ratings, and (b) achievement motivation and grade point average.

Null Hypothesis XV

There will be no significant positive correlation between (a) test anxiety and grade point average, (b) test

anxiety and teacher ratings, and (c) test anxiety and internal-external control.

Selection of the Sample

The sample consisted of twelfth grade students in their second year at an area vocational education center. The rationale for involving students who had previously attended the center was that instructors would be familiar with the student's work and thus be in a qualified position to judge their performance. Also, the investigator was able to obtain a significant amount of data on returning students which allowed the experimental group to be closely matched with the control group. The variables in which control and experimental subjects were matched included: program enrolled, sex, and past grades in program.

Sixty twelfth grade students were selected for the experiment. As mentioned, all sixty students were returning to the vocational center for their second year of enrollment, and the following data was obtained on each student: program enrolled, past performance record, and grade in program. The sample was paired according to program enrolled, sex, and past performance in program. One student from each of the thirty pairs was then randomly selected to participate in the training program. The remaining thirty students, matched by program, sex, and past performance, were utilized as the control group.

Also during the initial meetings with the experimental group, the trainer made it clear that participation was voluntary. During the semester one student joined the Navy while a second student decided to work in the vocational program at the time when the training program met.

The Training Program

An Introduction

The training program was conducted as part of the career training experiences for returning enrollees at the Northeast Oakland Vocational Education Center. Rather than spend all of the training time in learning a specific skill, the students participated in what was described as a special program designated to expose students to what characteristics employers look for in employees, the relationship between one's motivation and work outcome, and the relationship between goal setting and work outcome. The program, consisting of four separate groups, was conducted for the duration of the fall semester. The students met in small groups, seven to eight participants per group, on a weekly basis for an hour and a half.

The investigator served as the group trainer: having had three years of full-time counseling experience at the university and community college level, extensive formal training and supervision in individual and group counseling at the masters and doctoral level, and an excess of one thousand hours experience as a group counseling leader, co-leader and member during the past five years.

Overview of the Training Program Design

The overall design of the program included: (1) essential ingredients associated with successful methods in working with students of varying abilities (Bednar and Weinberg, 1970), and (2) activities that center about the development of achievement motivation (McClelland, 1969; Alschuler, et. at., 1970).

Literature has shown certain characteristics, essential ingredients, to be associated with successful training programs. Thus, the present training program was designed around the following characteristics:

1. structured rather than unstructured
2. lengthy rather than brief (at least a semester as compared to a one-week or weekend program)
3. counseling aimed at the dynamics of achievement (content includes cognitive as well as affectively toned sessions)
4. having high levels of therapeutic conditions (empathy, warmth and genuineness), (Truax, and Carkhoff, 1965)
5. appropriate to the needs of the students (personal goal setting and planning)

When the above conditions are met, it is believed that achievement motivation can be affected through a series of experiences that described, related the importance of, and allow the internalization of the achievement motive in individuals.

The design of the traditional achievement motivation program (McClelland, 1965) draws upon four types of empirical information. McClelland first cites the animal learning

experiments as revealing the importance of repetition, optimal time intervals between stimulus, response and reward, and scheduling in relationship to learning. Secondly, the human learning experiments have also shown the importance of repetition meaningfulness, distribution of practice, and recitation as viable factors in effective learning. Psychotherapy (Rogers, 1961) has stressed the importance of the climate in order for change to take place. Research in attitude change is cited as stressing the importance of using reason or prestige to support an argument, and that affiliating with a new reference group is crucial in developing new attitudes (Hovland, Janis, and Kelley, 1953). Therefore, McClelland states that the above information must be put together when developing a program in motive acquisition in order for it to profit from what is already known regarding the facilitation of learning or producing attitudinal change.

The overall intent of most of the training programs that have followed along with McClelland's thinking (Kolb, 1965; Alschuler, 1970; Ryals, 1970) has been to be certain that participants received a clear perception of the n Achievement scoring categories and the n Achievement behavioral syndrome. The n Achievement categories specifically follow the scoring code for the Thematic Apperception Test, and identify the thinking process, and feelings associated with high achievement. The n Achievement behavioral syndrome includes the behavior strategies found to be associated with the high need achiever: moderate risk-taking, personal commitment

and responsibility taking, realistic use of feedback, and effectively exploring the environment.

Alschuler, Tabor and McIntyre (1970) more recently published a text entitled Teaching Achievement Motivation. The authors have presented an overall description of the training program in terms of a six step sequence, that causes the arousal and internalization of the achievement motive:

1. Attend: As every teacher knows, you must get students attention before any learning can take place. We found this can be done by dramatic settings and unusual procedures which are moderately different from everyday teaching methods.
2. Experience: The student must vividly experience the thoughts, actions, and feelings comprising the motive. This is accomplished through a variety of games.
3. Conceptualize: To clarify the motive, students are taught to conceptualize and label the components of the motive. Many traditional teaching methods for building vocabulary are used in this phase.
4. Relate: The relevance of the motive is assessed by examining its relationship to the person's ideal image of himself, his basic values and the everyday demands of his life.
5. Apply: If the person decides to increase the motive, the course instructors should help him practice applying the motive in several real goal-setting situations.
6. Internalize: If the motive is to be internalized, the final step is for the instructors to progressively withdraw external support while maintaining the level of voluntary use and satisfaction.

(Alschuler, Tabor and McIntyre,
Teaching Achievement Motivation,
1970, p. 11)

Specific Training Program Content

The present training program utilized many of the above principles in conjunction with several activities that seem to be affective in motive acquisition. The training program can be described in three phases: cognitive teaching, in-group experiencing and modeling, and out-group application.

Phase One: Cognitive Teaching

The first phase of the training program included four sessions. This involved direct teaching of achievement motivation thinking and action strategies. The rationale behind this step is that one has to first fully understand the concepts and ideas before any real internalization and utilization can take place. Once these basic thought patterns are understood, one has the choice of increasing his achievement behavior by incorporating the principles into one's own thinking, and thus developing thought sequences that are more related to persons high in achievement motivation. It is evident that this philosophy correlates with past thinking of McClelland and others who view the need to achieve as one motive placed on a hierarchy with other motives. It also follows a think-talk-act model described by Kolb (1965). Implicit in this argument is that one is more likely to take action upon things that have been given a great deal of thought and that have been talked about with others. The talking about with others often leads to a form of verbal commitment resulting in action.

The overall intent of phase one is that the participants receive a clear perception of the n Achievement thinking (n Achievement scoring categories) and the n Achievement behavioral syndrome; namely, the behavioral strategies of moderate risk-taking, personal commitment, and the realistic use of feedback. A breakdown of the sessions in phase one follows:

Session One: Statement of program purpose; outline of program is presented to participants.
 Get acquainted
n Achievement test given under neutral conditions
n Achievement test explained

Session Two: Membership review
 Research presented on relationship between achievement motivation and other variables
 Research presented on characteristics of person with high achievement motivation
 Distribution and explanation of n Achievement Test scoring system

Session Three: Participants score own tests
 Discussion of results
 Practicing achievement thinking by rewriting stories filled with achievement imagery

Session Four: Review of achievement thinking
 Review of action strategies of high achiever
 Discussion of case studies and examples of individuals high in achievement motivation

At the conclusion of phase one, the participants should be thoroughly familiar with the high achiever's way of thinking; thoughts of success, fear of failure, plans for instrumental activities, and goal setting. During the review, personal examples should be given where participants have experienced these feelings in past situations.

Phase Two: In-Group Experiencing and Modeling Behavior

The second phase of the training program consisted of two basic elements: (1) Prototype experiences of the behavioral syndrome within the group. (2) Influencing the learning of new behaviors through the use of achieving models.

The Origami Game provides the opportunity to practice the action strategies of moderate risk-taking, researching the environment, utilizing concrete feedback, and taking personal responsibility. This game, structured to create a prototype achievement situation, according to Alschuler (1970) has the potential of being the most fun and most valuable aspect of the training. During the game, each participant, as president of a company, is given information about costs and selling prices. Estimates are then made regarding how many products can be made during a six minute production period.

Studies have demonstrated that significant models are influential in the learning of new behaviors by the observing subjects (Bandura, 1967; Bandura and Walters, 1963). It is believed that the motivation to achieve is also influenced

by the presence or absence of adequate achieving models in one's immediate environment or life-space. Guest speakers were invited to talk with participants for this reason. The object was to find out how achievement motivation may have played a part in determining the success of the individual.

Phase two consisted of four sessions. An outline of the sessions follows:

Session One: Guest Speakers

Session Two: Origami Game

Session Three: Origami Game

Session Four: Guest Speakers

At the conclusion of phase two, a further internalization of the achievement motive should take place through observing and practicing achievement thinking and behavior strategies.

Phase Three: Out-Group Application

The third phase of the training program dealt with the transfer of achievement behavior from within the group to outside settings. In this final phase, less dependence upon the group, or external source is stressed, and more emphasis is placed upon personal goal setting, planning, and internalization of achievement behavior.

To begin this phase, successful results have been found by participants performing an exercise of answering the question, "Who Am I" in as many ways as possible (McClelland, 1969). Answers to this question are discussed in terms of

achieving behavior. This, according to Alschuler and others (1970), can be seen as withdrawal from the group into personal aims and more direct usage of achievement learning. One individual conference between group leader and participants follows regarding goals, plans, and how to utilize achievement thinking. The final session included a review of some of the key points in the achievement motivation training program through the use of the film "Need to Achieve." Discussion and evaluation followed the film.

An outline of phase three includes:

- Session One: "Who Am I" exercise
"Who Do I Want To Be" exercise
Discussion
- Session Two: Goal Setting
Achievement Plans
- Session Three: Individual Conferences
- Session Four: Summary Film
Discussion

In conclusion, it is hoped that the above structure will supply other researchers with a clearer understanding of the present achievement motivation training program. It should also make implementation into other settings somewhat easier. Flexibility within this program is extremely important. Careful evaluation after each of the sessions and phases should take place in order to construct the most effective program. For example, room should be left for spontaneity and for individual differences. The investigator agrees with McClelland, Alschuler and others, in that only then does the

program keep in tune with achievement motivation training that encourages each individual to find his own unique way of satisfying his concern for excellence.

Measuring Instruments

The measuring instruments utilized in this study include:

1. The Michigan State Motivation Scales (M-Scales)
2. The Internal-External Scale (I-E Scale)
3. The Test Anxiety Questionnaire (TAQ)
4. The Faculty Appraisal Scale

Farquhar's (1963) Michigan State Motivation Scales have been used to operationally define one's motivation to achieve. The 150 item questionnaire used by Tang (1969) was incorporated in the present study. The scale consists of three parts: a generalized choice inventory, a word rating list, and a human trait inventory. The reported reliability estimates of the Michigan State Motivation Scales using Hoyte's analysis of variance technique was .94 for males and .93 for females. The validity estimates of the M-Scales against grade-point average was .56 for males and .40 for females (Farquhar, 1963).

The Internal-External Scale, developed by Rotter (1955, 1960), attempts to measure the degree to which one sees self as the determiner of outcome (locus of control). Rotter (1966) has discussed the similarity between internal-external control and feelings of competence, field dependence,

and ego-strength. The I-E instrument consists of twenty nine forced-choice items, of which six are 'fillers.'

An internal consistency analysis (kuder-Richardson) yielded $r = .70$ for males and females. Test-retest reliability ($N=400$) after one month was found to be .60 males; .83 females. Correlations with the Marlow-Crown Social Desirability Scale (1964) range from $-.07$ to $-.35$ (Robinson, and Shaver, 1970).

The Test Anxiety Questionnaire is used as a measure of the strength of the motive to avoid failure. The questionnaire, designed by Mandler and Sarason (1952) elicits self-ratings on items descriptive of anxiety reactions in test situations. Mandler and Sarason (1952) reported a correlation of $-.209$ ($p < .05$) between the TAQ and the Hennion-Nelson Test of Mental Ability. Similar results were reported by Cowen (1957) finding an inverse relationship between level of test anxiety and intelligence test scores.

Mandler and Sarason (1952) report the split half reliability of the TAQ as being .91. The relationship between the TAQ and the widely used Taylor Scale of Manifest Anxiety was reported by Raphelson (1957) with a correlation of .53 ($N=24$).

The Faculty Appraisal Sheet was constructed by the experimenter for this particular investigation. The rationale for its construction was to provide additional information that would more precisely reveal effects of treatment in the career programs, rather than depend solely on the global letter grade.

The scale was developed through conferences with the instructors where information was obtained regarding what criteria is used in evaluating student performance. A general list of twenty items was first obtained by the investigator. Several items were repetitious and could be condensed into easier defined terms. Thus, the scale was shortened to what was believed to be the ten most salient items in which instructors evaluate their students.

Changes in grade point average at the vocational center from the Winter 1971 to the end of the Fall 1971 semester was also utilized as a measure indicating achievement performance.

Data Collection

Prior to the start of the training program, experimental and control subjects completed the Michigan State Motivation Scales, Rotter's Internal-External Scale, and the Test Anxiety Questionnaire. They were administered at the vocational center, under the broad title of a Guidance Inventory to determine its possible use for counselors to better understand and assist students attending the center. It was stated that results would be confidential and would be interpreted to interested students later in the year. Instructors at this time rated each senior according to the Instructor Rating Scale.

Following the training program, the Guidance Inventory was administered to control and experimental subjects. Grades were obtained in advance of the training program

and again at the end of the Fall, 1971 semester. Instructors also rated each senior at the termination of the Fall semester.

Data Analysis

Analysis included testing the differences between mean scores (post-test minus pre-test scores), using the T test. Analysis of variance was also utilized. An analysis of covariance was incorporated to adjust for pre-test differences between the two groups.

Correlation coefficients were utilized in the investigation to test out relationships between the different variables under study. Stepwise regression analysis was also utilized.

CHAPTER IV

PRESENTATION OF FINDINGS

Introduction

In this chapter the results of the training program are presented. Data gathered before and after the treatment are statistically analyzed and included for more thorough examination. The chapter is organized under three main headings: (1) Assessment of Treatment Effects, (2) Assessment of Treatment Effects Upon Individual Sub-groups, and (3) Relationships of Selected Variables.

Each null hypothesis, in turn, is presented and examined. The .01 and .05 level of significance will be used to reject the null hypothesis. The investigator believes that the reporting of directional trends is warranted in this study. Therefore, the .20 level of confidence is used in reporting the presence of "directional" changes.

Assessment of Treatment Effects

This section of Chapter IV examines the effects of the training program upon participant's performance on a number of variables. Variables under review include participant's

performance on the Michigan State Motivation Scale, Rotter's Internal-External Scale, and the Test Anxiety Questionnaire. Instructor Ratings of participants and grades earned by participants are also examined. Changes in performance of experimental group participants are compared to that of a control group of students.

The following questions should be answered by this section: Was the experimental treatment effective in increasing achievement motivation level, in reducing external control level, and in reducing level of test anxiety? Was the experimental treatment effective in increasing students performance according to grades received and according to instructor's ratings?

Null Hypothesis I

Experimental group trainees will not exhibit significantly greater change in achievement motivation than a control group of trainees.

Analysis of covariance was used to assess effects of treatment upon the experimental group in comparison to the control group. Scores from the Michigan State Motivation Scale (M-Scales) administered before treatment were used as covarites. An analysis of variance of the pre-test scores on the M-Scales showed no significant differences among the groups and thus substantiated that the pre-treatment means were from the same population.

Table I shows that the analysis of covariance of the scores on the M-Scales revealed significant differences

between the groups. An F-ratio of 14.31 was obtained, which was significant beyond the .01 level. This data shows that the Experimental treatment, designed to increase level of achievement motivation was significantly successful. As a result, the null hypothesis that no difference would occur was rejected.

TABLE 1

ANALYSIS OF COVARIANCE BETWEEN ACHIEVEMENT MOTIVATION
SCORES OF EXPERIMENTAL AND CONTROL GROUP TRAINEES

Variation	DF	Sum Squares	Mean Square	F-Ratio
Between Groups	1	1705.91	1705.91	14.31**
Within Groups	51	6078.17	119.18	
Total	52	7784.07		

**Significant at $<.01$

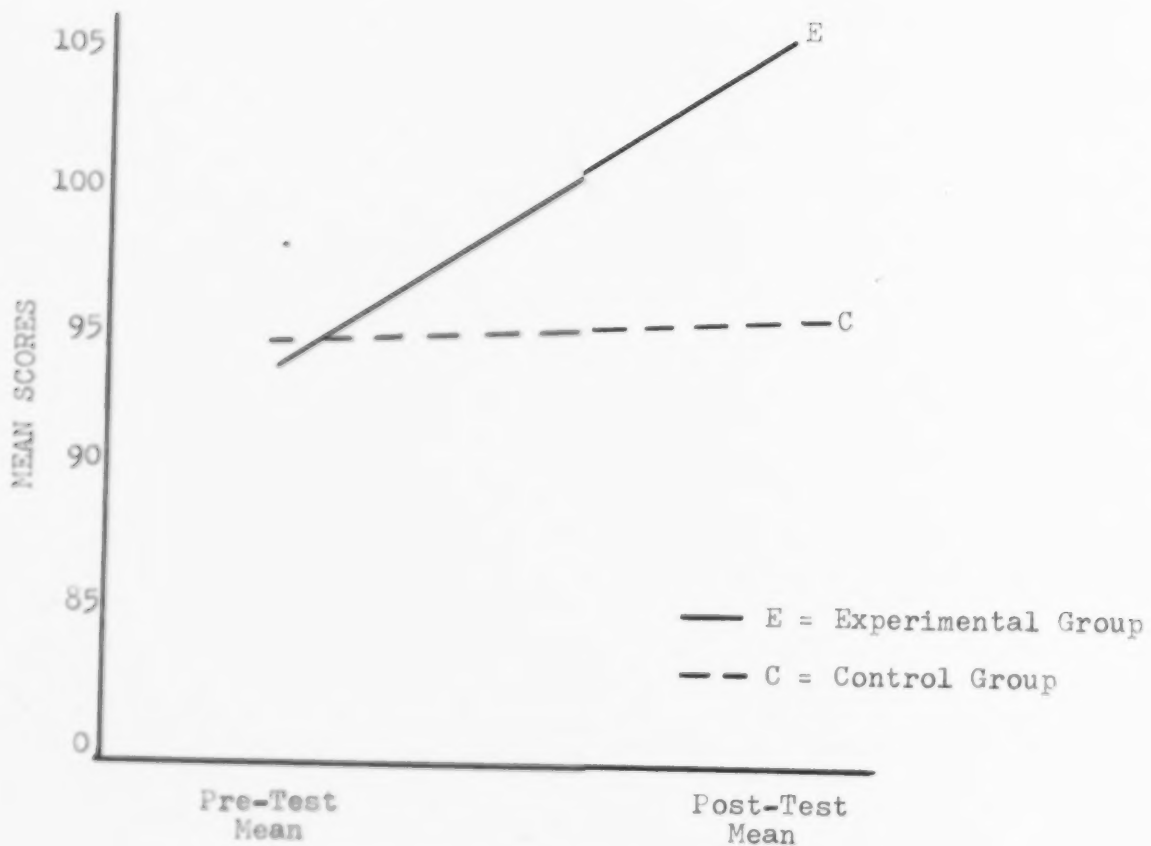
The adjusted group means on the motivation criterion were 107.07 for the Experimental group and 95.81 for the Control group. Table 2 presents the pre-test, post-test, and adjusted means of the two groups.

TABLE 2

ADJUSTED POST-TEST GROUP MEANS ON THE
MOTIVATION CRITERION TEST

Group	Pre $\bar{X}$	Post $\bar{X}$	Adjusted $\bar{X}$
Experimental Group	93.328	106.68	107.07
Control Group	94.54	96.23	95.81

Figure 3. -- Comparison of pre- and post-test group mean scores on achievement motivation.



The pre-test and the post-test group means for achievement motivation are shown graphically in Figure 3. The positive slope of the solid line representing the performance of the Experimental group shows marked improvement, whereas the broken line representing the performance of the Control group indicates only a slight improvement.

Null Hypothesis II

The level of achievement motivation in student trainees will ~~not~~ change significantly as a result of the Experimental treatment.

The T-test analysis was utilized to determine the effects of the treatment upon Experimental trainees' performance on the M-Scales. Table 3 shows that significant increase was evidenced at the .01 level. The experimental treatment was successful in significantly increasing the achievement motivation level of student trainees with a T-Ratio of 4.91. The null hypothesis of no change was therefore rejected.

TABLE 3

T-VALUE BETWEEN PRE- AND POST-ACHIEVEMENT MOTIVATION
MEAN SCORES IN THE EXPERIMENTAL AND CONTROL GROUP

Group	Pre-Test		Post-Test		T-Ratio
	X ₁	SD ₁	X ₂	SD ₂	
Experimental Group	93.32	17.76	106.68	13.79	4.91**
Control Group	94.54	18.23	96.23	18.28	.83

**Significant at <.01

Null Hypothesis III

Experimental group trainees will not exhibit significantly greater change in level of Internal-External control than the Control group of trainees.

Analysis of covariance of the Rotter Internal-External Scale mean scores for the Experimental and Control groups revealed that the training program was ineffective as a

means in reducing level of external control. Table 4 shows a nonsignificant F-ratio. As a result, the null hypothesis was accepted.

TABLE 4
ANALYSIS OF COVARIANCE BETWEEN INTERNAL-EXTERNAL
SCORES OF EXPERIMENTAL AND CONTROL GROUP TRAINEES

Variation	DF	Sum Squares	Mean Square	F-Ratio
Between Groups	1	27.31	27.31	2.27*
Within Groups	51	614.43	12.05	
Total	52	641.73		

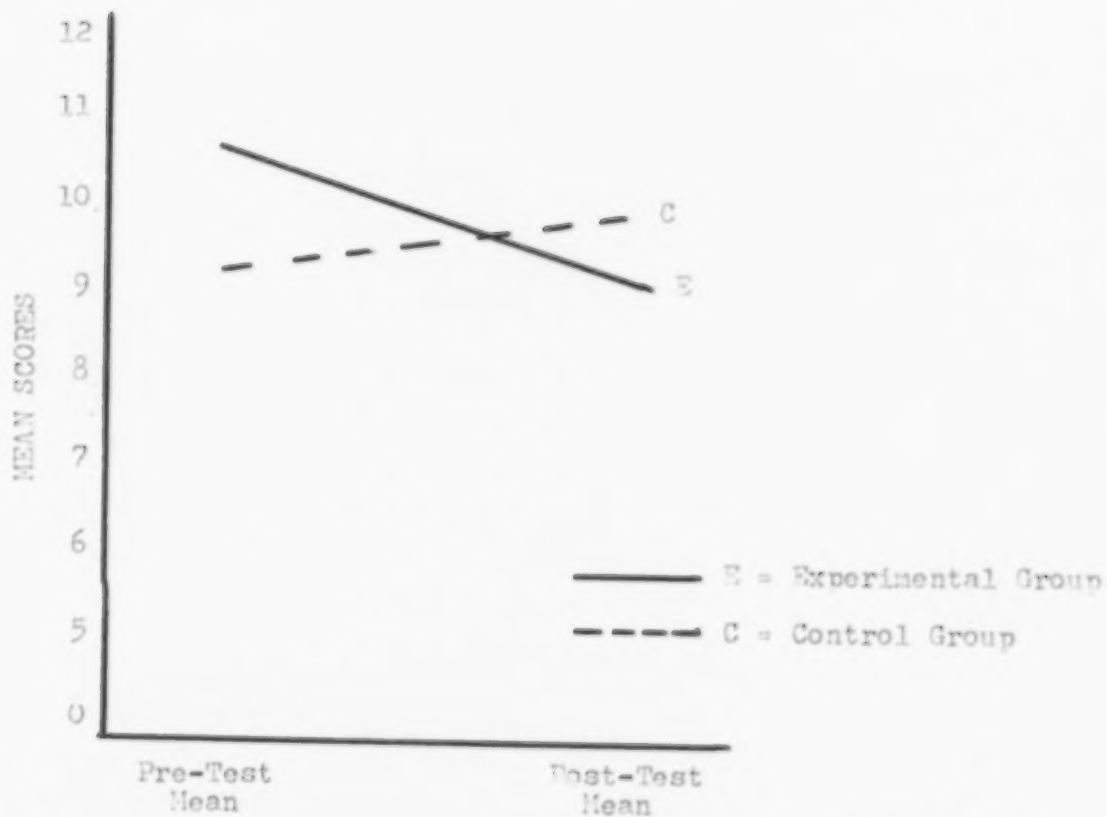
*Not significant

The adjusted group means on the Internal-External criteria were 9.06 for the Experimental group and 10.51 for the Control group. Table 5 presents the pre-test, post-test, and adjusted means of the two groups.

TABLE 5
ADJUSTED POST-TEST GROUP MEANS ON THE
INTERNAL-EXTERNAL CRITERION TEST

Group	Pre $\bar{X}$	Post $\bar{X}$	Adjusted $\bar{X}$
Experimental Group	10.89	9.46	9.06
Control Group	9.46	10.08	10.51

Figure 4. -- Comparison of pre- and post-test group mean scores on the Internal-External Scale.



The pre- post- Internal-External Control group means are graphically illustrated in Figure 4. The negative slope of the solid line for the Experimental group shows a decrease in feelings of external control. The broken line shows a slight increase for the Control group in feelings of being controlled by outside forces.

Null Hypothesis IV

The level of Internal-External Control in student trainees will not change significantly as a result of the Experimental treatment.

The T-test analysis was used to determine whether the experimental treatment significantly changed Internal-External Control level. Table 6 reveals that the treatment had significantly effected Experimental trainees level of locus of control. The experimental treatment reduced the internal-external score significantly at the .05 level. A high score on the scale indicates feelings of being controlled by external forces. The change was in the expected direction of reducing the score and moving towards greater feelings of internal control for the Experimental group. Null Hypothesis IV was therefore rejected.

The data obtained for the Control group warrants additional comment. Although no statistically significant change took place, it is interesting that the movement was in the direction of greater feelings of external control.

TABLE 6

T-VALUE BETWEEN PRE- AND POST-INTERNAL-EXTERNAL CONTROL
MEAN SCORES IN THE EXPERIMENTAL AND CONTROL GROUP

Group	Pre-Test X ₁	SD ₁	Post-Test X ₂	SD ₂	T-Ratio
Experimental Group	10.89	3.74	9.46	3.53	-2.39*
Control Group	9.46	3.67	10.08	4.57	.72

*Significant at $\leq .05$

Null Hypothesis V

Experimental group trainees will not exhibit significantly greater change in level of Test Anxiety than the Control group of trainees.

Analysis of covariance was used to assess the effects of treatment upon Experimental Trainees Test Anxiety Level. Table 7 shows that the analysis of covariance of the scores on the Test Anxiety Questionnaire did not reveal significant differences between the Experimental and Control group. Therefore, the null hypothesis that no difference would occur was accepted.

TABLE 7

ANALYSIS OF COVARIANCE BETWEEN TEST ANXIETY SCORES
OF EXPERIMENTAL AND CONTROL GROUP TRAINEES

Variation	DF	Sum Squares	Mean Square	F-Ratio
Between Groups	1	43.28	43.28	0.49*
Within Groups	51	4459.14	87.43	
Total	52	4502.42		

*Not significant

Table 8 shows that the adjusted post-test mean scores of the Experimental and Control group were quite similar. The Experimental group post-test mean score was slightly lower but not significantly lower. A high score on the (TAQ) would indicate greater test anxiety or fear of failure. Table 8 indicates a slight movement for both groups in the direction of reducing test anxiety.

TABLE 8

ADJUSTED POST-TEST GROUP MEANS ON THE
ANXIETY CRITERION TEST

Group	Pre $\bar{X}$	Post $\bar{X}$	Adjusted $\bar{X}$
Experimental Group	46.93	45.21	45.60
Control Group	48.04	47.81	47.39

Null Hypothesis VI

The Test Anxiety Level of student trainees will not change significantly as a result of the Experimental treatment.

Table 9 indicates no statistically significant reduction in test anxiety for experimental group trainees. Differences between pre- and post-test mean scores on the Test Anxiety Questionnaire for the Experimental group were not significant at the levels set in order to reject the null hypothesis. The null hypothesis that no difference would be found was accepted. A directional tendency was obtained for the Experimental group.

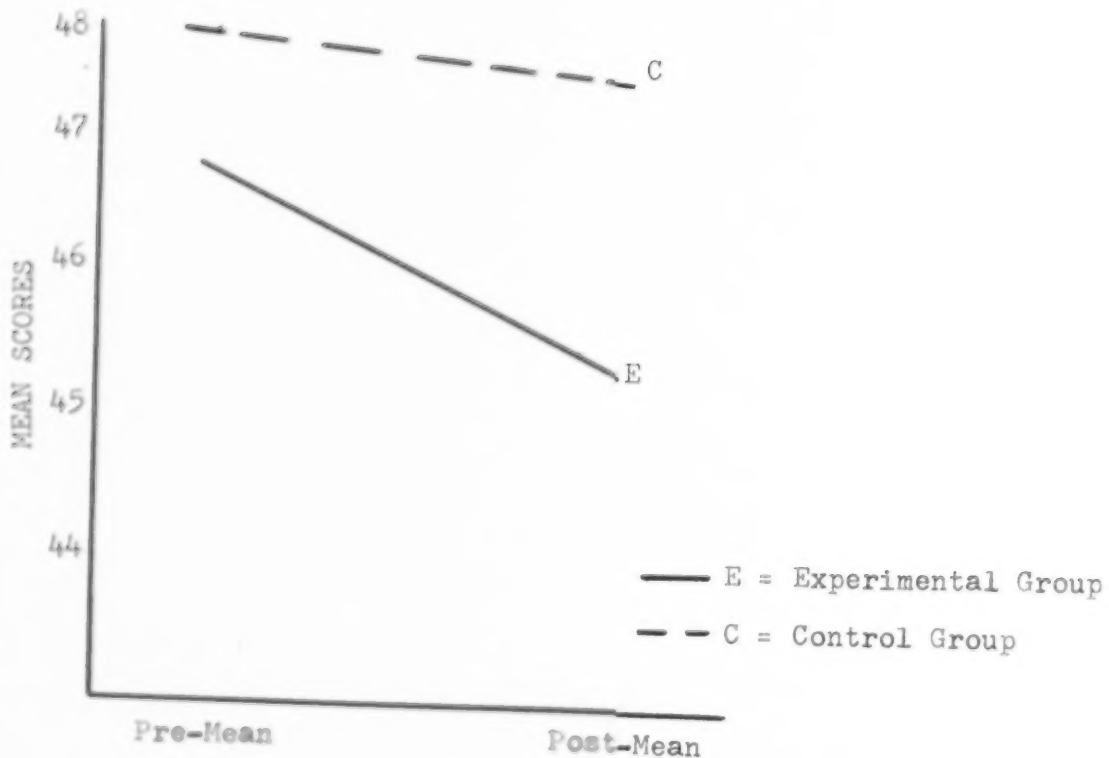
TABLE 9

T-VALUE BETWEEN PRE- AND POST-TEST ANXIETY MEAN
SCORES IN THE EXPERIMENTAL AND CONTROL GROUP

Group	Pre-Test X_1	SD ₁	Post-Test X_2	SD ₂	T-Ratio
Experimental Group	46.93	13.36	45.21	12.77	-1.13*
Control Group	48.04	11.30	47.81	12.99	-0.01

*Directional difference

Figure 5. -- Comparison of pre- and post-test group mean scores on Test Anxiety.



The pre-test and post-test group means for test anxiety are shown graphically in Figure 5. The negative slope of the solid line represents a decrease in test anxiety for the Experimental group. A negative slope in the broken line also represents a slight decrease in test anxiety for Control group trainees.

Null Hypothesis VII

Experimental group trainees will not exhibit significantly greater change in Instructor Rating Scores than the Control group of trainees

The Instructor Rating Scale, earlier discussed in Chapter III, was the measure used by instructors to rate students performance prior to, and following the experimental treatment. The analysis of covariance was used to determine change differences between the Experimental and Control group. Table 10 indicates that no significant difference existed between the Experimental and Control group in regard to Instructor Rating Mean scores. The null hypothesis of no difference was accepted.

TABLE 10

ANALYSIS OF COVARIANCE BETWEEN INSTRUCTOR RATING
SCORES OF EXPERIMENTAL AND CONTROL GROUP TRAINEES

Variation	DF	Sum Squares	Mean Square	F-Ratio
Between Groups	1	16.35	16.35	0.31*
Within Groups	51	2678.47	52.52	
Total	52	2694.82		

*Not significant

Table 11 presents the pre-, post- and adjusted Instructor Rating mean scores for the Experimental and Control group. Despite evidence that significant differences were not discerned, it should be noted that the adjusted mean for the Experimental group was larger than that manifested by the Control group.

TABLE 11

ADJUSTED POST-TEST GROUP MEANS ON THE INSTRUCTOR
RATING CRITERION TEST

Group	Pre $\bar{X}$	Post $\bar{X}$	Adjusted $\bar{X}$
Experimental Group	41.39	43.86	44.57
Control Group	43.15	44.23	43.46

Null Hypothesis VIII

The Instructor Rating Scale Score in student trainees will not change significantly as a result of the Experimental treatment.

The T-Test was used to determine pre- and post-differences in mean Instructor Rating scores for the Experimental and Control group. Table 12 shows that pre- and post-mean scores were only slightly different. The slight movement was in the direction of higher post ratings. The T-ratio was nonsignificant. The null hypothesis was therefore accepted.

TABLE 12

T-VALUE BETWEEN PRE- AND POST-INSTRUCTOR RATING MEAN
SCORES IN THE EXPERIMENTAL AND CONTROL GROUP

Group	Pre-Test X_1	SD ₁	Post-Test X_2	SD ₂	T-Ratio
Experimental Group	41.39	10.99	43.86	11.18	1.62*
Control Group	43.15	12.23	44.23	13.01	0.82

*Directional difference

Figure 6. -- Comparison of pre- and post-group means on the
Instructors Rating Scale.

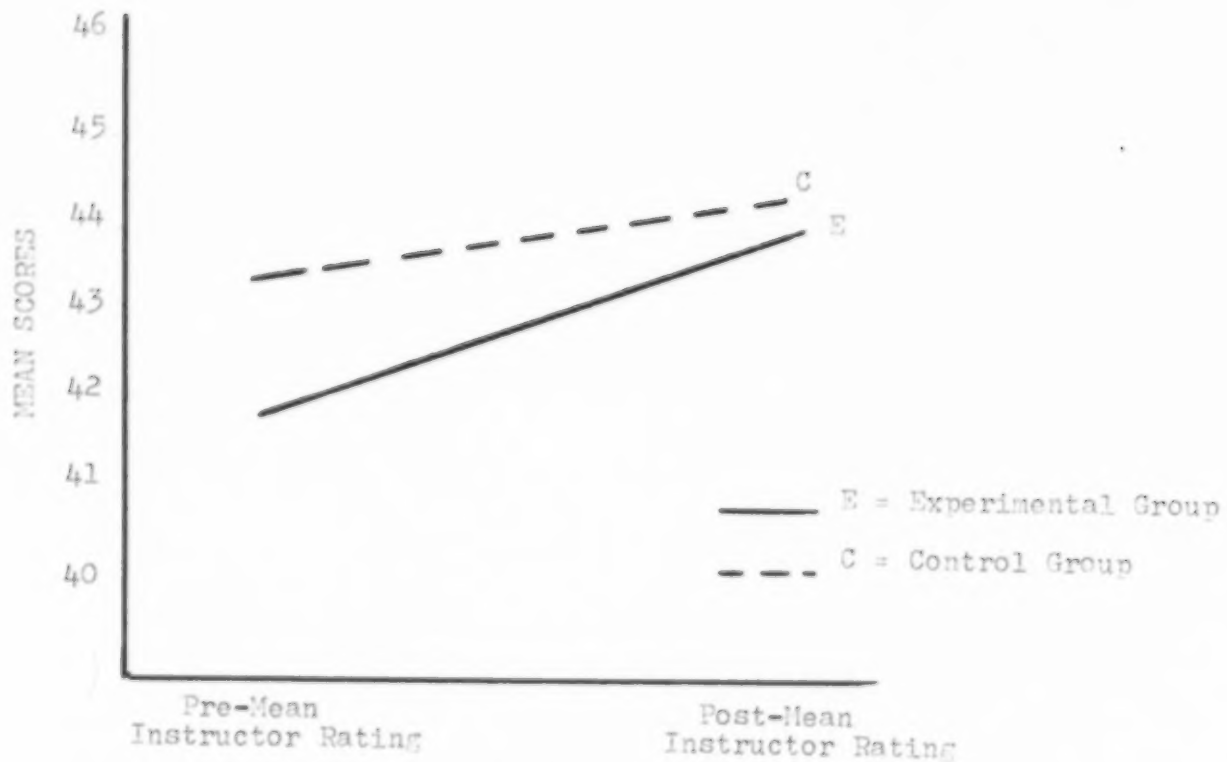


Figure 6 shows a positive trend in pre- post- Instructor Ratings for both the Experimental and Control group. The angle of increase is slightly sharper for the Experimental group.

Null Hypothesis IX

Experimental group trainees will not exhibit significantly greater change in program grade point average than the Control group of trainees

Analysis of covariance was used to assess the effects of treatment upon Experimental trainees grades in program. Table 13 shows that the analysis of covariance of the grades received in the trainees program did not reveal significant differences between the Experimental and Control group. Therefore, the null hypothesis that no difference would occur was accepted.

TABLE 13

ANALYSIS OF COVARIANCE BETWEEN GRADES RECEIVED IN
PROGRAM OF EXPERIMENTAL AND CONTROL GROUP TRAINEES

Variation	DF	Sum Squares	Mean Square	F-Ratio
Between Groups	1	0.01	0.01	0.01*
Within Groups	51	51.38	1.01	
Total	52	51.39		

*Not significant

Table 14 gives the adjusted post- grade average mean scores of the Experimental and Control group. Grades are based on a five point scale (1=E, 5=A). No difference in pre- to post- grade average is revealed.

Figure 7. -- Comparison of pre- and post- group mean GPA's at the vocational center based upon a five point grading system.

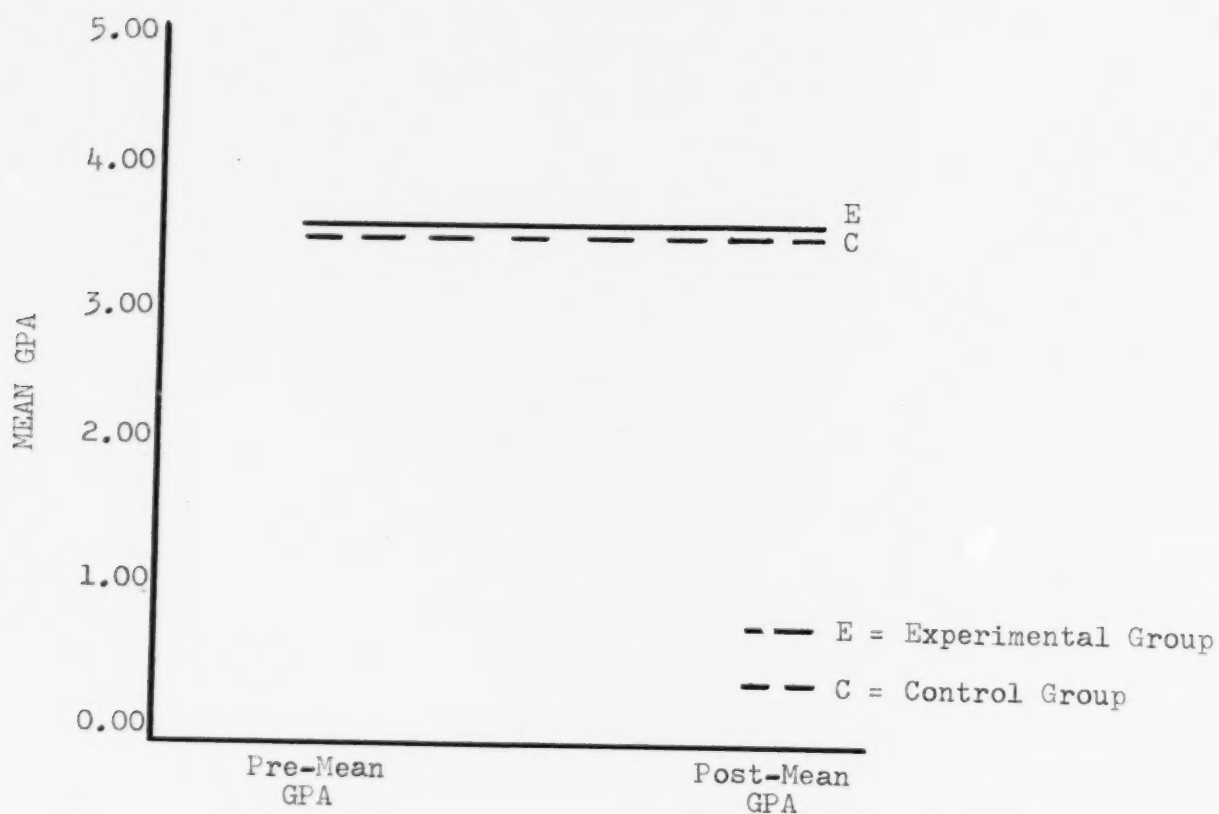


Figure 7 graphically shows pre- and post- mean g.p.a. for the Experimental and Control group. As evidenced by the solid and broken lines, neither group changed in GPA.

TABLE 14

ADJUSTED POST-TEST GROUP MEANS ON GRADES
RECEIVED IN PROGRAM

Group	Pre $\bar{X}$	Post $\bar{X}$	Adjusted $\bar{X}$
Experimental Group	3.71	3.71	3.70
Control Group	3.65	3.65	3.67

Null Hypothesis X

Grade Point Average of student trainees will not change significantly as a result of the Experimental treatment.

Table 15 indicates no significant change in grade point average for either the Experimental or Control group trainees. The null hypothesis that no difference would be found was accepted.

TABLE 15

T-VALUE BETWEEN PRE- AND POST- GRADE POINT AVERAGES
IN THE EXPERIMENTAL AND CONTROL GROUP

Group	Pre-Test X_1	SD ₁	Post-Test X_2	SD ₂	T-Ratio
Experimental Group	3.71	0.81	3.71	1.08	0.0*
Control Group	3.65	0.89	3.65	1.09	0.0

*Not significant

Summary of section one

Section one of Chapter IV has investigated the effects of the treatment program upon an Experimental group of

student trainees. Changes in achievement motivation, internal-external control, test anxiety, instructor ratings, and grades of Experimental and Control group participants were analyzed. This section attempted to answer the questions: (1) Was the experimental training program effective in increasing achievement motivation level, in reducing external control feelings, and in reducing level of test anxiety? (2) Was the experimental treatment effective in increasing student's performance according to grades received and according to instructor's ratings?

Upon examination of the findings, it was found that the Experimental treatment was effective in significantly increasing achievement motivation level as measured by the Michigan State Motivation Scale. Further examination of the findings revealed that the training program was not effective when comparing the two groups in locus of control change as measured by Rotter's Internal-External Control Scale, or in reducing test anxiety as measured by the Test Anxiety Questionnaire (TAQ). However, a significant change in reduction of external control was obtained for the Experimental group when pre- post- change was analyzed through the use of the T-test. No significant differences suggesting that the training program was effective in increasing students performance according to the Instructor Rating Scale or grades were found. However, an observation of the adjusted means indicated some possible effects of the training program

on several of the above cited variables. Directional differences in Test Anxiety and Instructor Ratings were found for the Experimental group.

Assessment of Treatment Effects
Upon Individual Sub-Groups

The investigation also focused upon individual sub-groups within the Experimental group of trainees. The over-all intent was to present information that would aid counselors or group trainers in designing future training programs that can predictably effect achievement motivation, internal-external control level and student's performance outcome.

It is hoped that, by discussing treatment effects in terms of certain characteristics of group trainees, that future program designers will have adventitious data concerning the question: "what kind of training, for which students, and for what purposes." This question deserves serious attention, denies being answered by a single investigation, and demands a series of interrelated research inquiries.

Through the analyzation of existing data and the discussion of results, the following questions will be answered in this section: Are there aptitude differences between those who have and those who have not effectively benefited from the training program? Is initial achievement motivation level a salient variable in determining whether one will or will not benefit from such a training program?

Once again the null hypothesis will be stated, followed by evidence which either supports or negates the statement.

Null Hypothesis XI

There will be no significant difference in aptitude between Experimental group trainees who demonstrate the greatest increase in achievement motivation and those who demonstrate the least.

One of the purposes of the present investigation was to determine what effect aptitude had upon whether one was able to benefit from the training program vis a vis increase achievement motivation level. Null Hypothesis XI was so designed to answer this question. The Differential Aptitude Test Battery was administered at the beginning of the Fall semester prior to the training program. The Michigan State Motivation Scale was administered at the beginning of the semester, as well as at the semester's end, five months later. Table 16 presents general aptitude test scores for each participant in conjunction with their pre- post- and difference- achievement motivation scores.

For statistical purposes the participants were ranked high, medium, and low, according to their general aptitude test results. The three subgroups were defined by the investigator. Because of the particular characteristics of the data, a simple one third case cutoff of high, medium, and low was not used. A compromise between the case method of dividing the group by thirds and the percentile method was utilized. As a result, eleven students consisted of subgroup one (low aptitude mean score of 14.18), six students consisted

TABLE 16

GENERAL APTITUDE, PRE- POST- AND DIFFERENCE-ACHIEVEMENT
MOTIVATION SCORES FOR EXPERIMENTAL GROUP TRAINEES

TRAINEE	GEN. APT.	PRE-AMS	POST-AMS	DIFF-AMS
01	45	106	105	-01
02	35	095	111	+16
03	25	121	123	+02
04	01	069	084	+15
05	30	106	115	+09
06	25	093	110	+17
07	05	109	108	-01
08	35	053	085	+32
09	45	099	097	-02
10	--	061	095	+34
11	35	107	105	-02
12	45	111	128	+17
13	10	089	114	+25
14	25	075	112	+37
15	65	072	086	+14
16	--	105	116	+11
17	05	118	109	-09
18	75	115	120	+05
19	90	070	066	-04
20	40	103	115	+12
21	40	087	100	+13
22	25	080	089	+09
23	15	102	113	+11
24	05	078	108	+40
25	80	104	109	+05
26	80	090	110	+20
27	70	102	113	+11
28	15	093	121	+28

of subgroup two (medium aptitude mean score of 35.83) and nine students comprised of subgroup three (high aptitude mean score of 66.11). An analysis of variance was used to assess the effects of treatment upon the three subgroup's achievement motivation change scores.

Table 17 shows a nonsignificant F-ratio. No significant difference in achievement motivation change score was found when analyzed according to the three subgroups. The null hypothesis of no significant difference in aptitude between Experimental group trainees who demonstrate the greatest increase in achievement motivation and those who demonstrate the least was therefore accepted.

TABLE 17

ANALYSIS OF VARIANCE BETWEEN ACHIEVEMENT
MOTIVATION CHANGE SCORES OF EXPERIMENTAL
GROUP TRAINEES RANKED BY APTITUDE

Variation	DF	Sum Squares	Mean Square	F-Ratio
Between Groups	2	308.86	154.43	1.09*
Within Groups	23	3253.80	141.47	
Total	25	3562.70		

*Not Significant

Table 18 allows further examination of the three groups. Although there are some mean change difference between the three groups, their difference does not approach significance. A Pairwise T-Statistic was conducted for the three groups.

Figure 8. -- Comparison of pre- and post- achievement motivation scores of Experimental trainee subgroups ranked by aptitude.

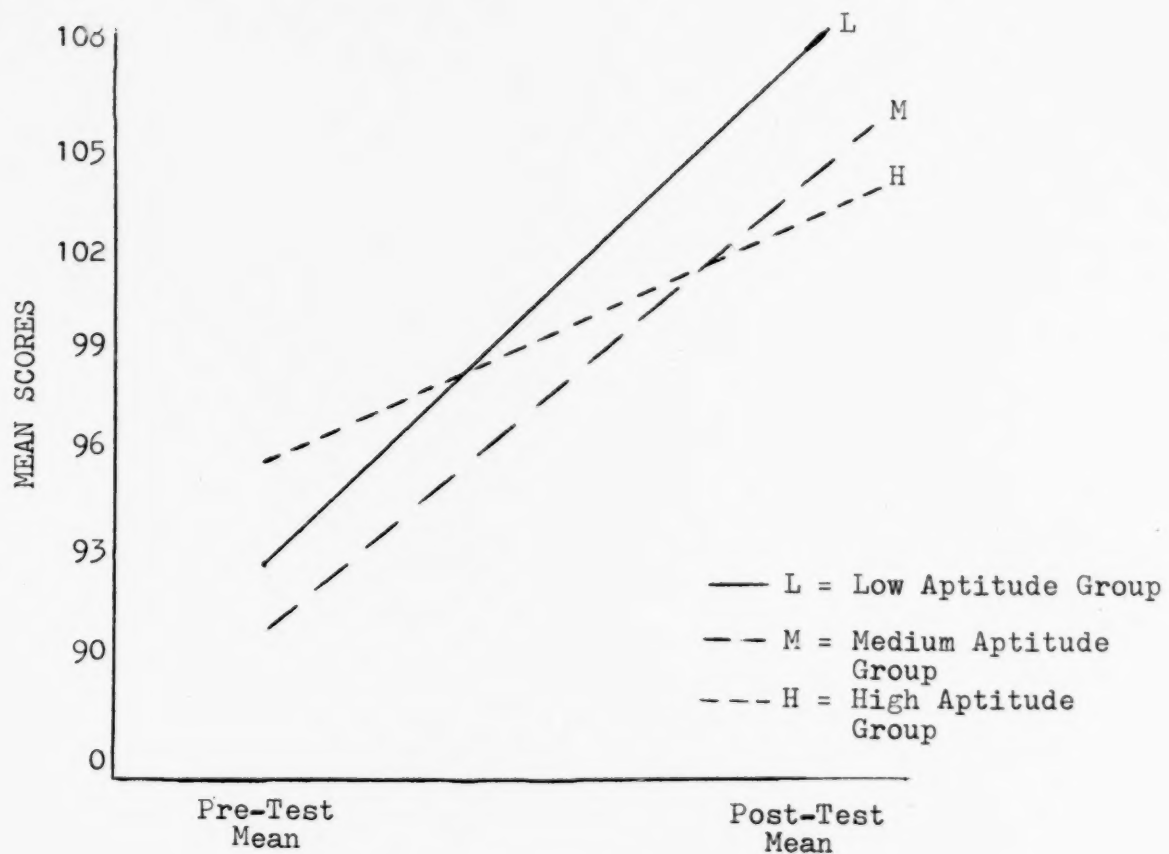


Figure 8 reveals the pre- post- achievement motivation scores of Experimental group trainees according to aptitude. The figure illustrates a positive movement for all groups with only slight differences in degree of slope between the three subgroups.

No significant differences were obtained when comparing group 1 (low aptitude) to group 2 (medium aptitude) or group 3 (high aptitude). Nor was significance reached when group 2 was compared with group 3. Therefore, general aptitude as measured by the Differential Aptitude Test Battery was not a significant factor in the change of achievement motivation level.

TABLE 18

MEAN CHANGE SCORES AND STANDARD DEVIATIONS
BETWEEN HIGH, MEDIUM AND LOW APTITUDE EXPERIMENTAL
GROUP TRAINEES ON ACHIEVEMENT MOTIVATION

Group	N	Mean Change	Standard Deviation
Low Aptitude	11	14.90	14.26
Medium Aptitude	6	13.33	11.05
High Aptitude	9	07.22	08.71

Null Hypothesis XII

There will be no significant difference in initial level of achievement motivation between Experimental group trainees who demonstrate the greatest increase in achievement motivation and those who demonstrate the least.

A concern that is often discussed, but less often researched revolves around the issue of whether the benefactors of such a training program are the same persons who initially had characteristics in their favor, ie., initially high in achievement motivation prior to their participation. Null Hypothesis XII answers this question

for this particular training program. Earlier, Table 18 gave pre- post- and difference- scores in achievement motivation. Again for statistical purposes, the participants were divided into high, medium, and low groups according to pre-test results on the (M Scales). Again, a compromise between a clear division by cases and by percentile was utilized. As a result ten students consisted of subgroup one (low initial achievement motivation mean score of 73.40), five students consisted of subgroup two (medium initial achievement motivation mean score of 94.00) and thirteen students comprised subgroup three (high initial achievement motivation mean of 102.00).

An analysis of variance was used to assess the effects of the treatment upon the three subgroups. Table 19 reveals a significant F-Ratio that distinguishes between the three groups. The null hypothesis of no significant difference in initial level of achievement motivation between Experimental group trainees who demonstrate the greatest increase in achievement motivation and those who demonstrate the least was therefore rejected.

TABLE 19

ANALYSIS OF VARIANCE BETWEEN ACHIEVEMENT
MOTIVATION CHANGE SCORES OF EXPERIMENTAL
GROUP TRAINEES RANKED BY INITIAL ACHIEVEMENT MOTIVATION LEVEL

Variation	DF	Sum Squares	Mean Square	F-Ratio
Between Groups	2	1692.1	846.03	5.90*
Within Groups	25	3584.4	143.38	
Total	27	5276.4		

*Significant at $<.01$

Figure 9. -- Comparison of pre- and post- achievement motivation scores of Experimental trainee subgroups ranked by initial motivation level.

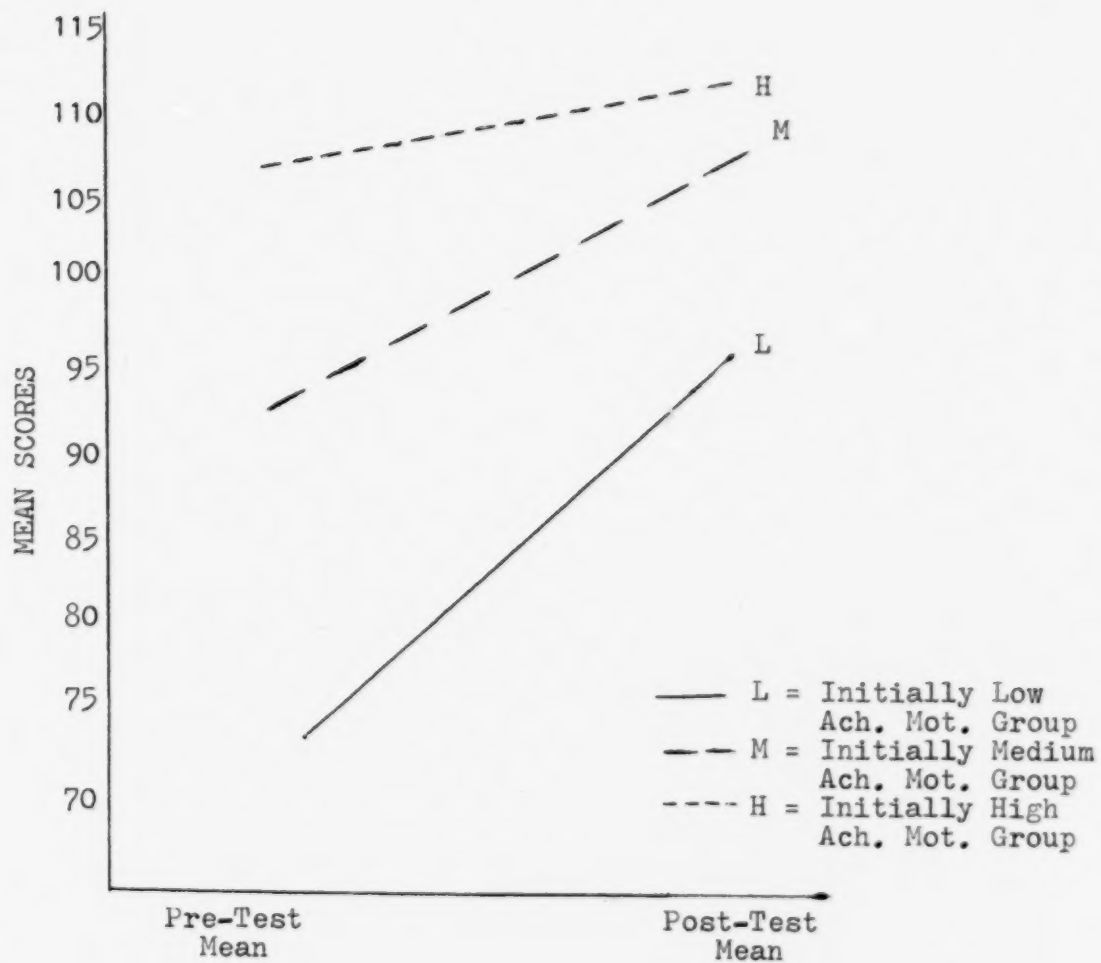


Figure 9 illustrates change in achievement motivation as demonstrated by initially low, medium, and high achievement motivation subgroups. It is revealed that the subgroup with the initially low motivation scores increased the greatest in achievement motivation during treatment.

Table 20 allows further examination of the three groups and their mean change scores. The greatest mean change, 22.50, took place with the initially low achievement motivation group. The least mean change, 5.38, occurred with the initially high achievement motivation group. The Pairwise T-Statistic revealed a significant difference between the initially low and the initially high achievement motivation groups at the .01 level. The initially low achievement motivation students increased their achievement motivation level at a significantly higher rate than the initially high achievement motivation students. No significant T-Ratios were found between the middle and low, or middle and high subgroups.

TABLE 20

MEAN CHANGE SCORES AND STANDARD DEVIATIONS BETWEEN
INITIALLY HIGH, MEDIUM, AND LOW MOTIVATION EXPERIMENTAL
GROUP TRAINEES ON ACHIEVEMENT MOTIVATION

Group	N	Mean Change	Standard Deviation
Initially Low Ach. Mot.	10	22.50	16.52
Initially Medium Ach. Mot.	5	15.80	11.00
Initially High Ach. Mot.	13	05.38	07.30

Summary of section two

Section two of this chapter observed the treatment effects in terms of certain characteristics of group trainees.

The center of focus was change in achievement motivation level. The precipitating variables under investigation were aptitude and initial achievement motivation of group participants.

The achievement motivation change scores in relationship to individual subgroups by aptitude were first examined. The investigator divided the experimental trainees into three subgroups according to their general aptitude obtained on the Differential Aptitude Test Battery. The subgroups were analyzed through the use of analysis of variance against changes in pre- post- achievement motivation scores. A nonsignificant F-Ratio was obtained. A Pairwise T-Statistic was also utilized to compare the three groups. Nonsignificant T-Ratios were obtained. Based upon these results null hypothesis XI was accepted. The conclusion was drawn that Experimental group trainees aptitude did not figure significantly in their ability to benefit from the treatment according to change in achievement motivation level.

A second question relating to the effect of initial achievement motivation level and potential changes in achievement motivation was also answered in section two. Three subgroups were identified according to initial achievement motivation scores. Change in pre- post- achievement motivation between the three groups was examined through the use of analysis of variance. A significant F-Ratio was obtained. The null hypothesis was thus rejected at the .01 level. A Pairwise T-Statistic further revealed a significant difference in

achievement motivation change between the initially high and initially low groups. The greatest change occurred with the initially low achievement motivation students. Based upon these findings it is concluded that although significant change occurred with all three groups in relation to achievement motivation, the initially low groups benefited the most from the training program.

In Chapter V implications for these findings will be fully discussed along with recommendations for future research in regard to additional critical pre-treatment variables that demand investigation in similar kinds of training programs.

Relationships of Selected Variables

A third focus of this investigation was to examine the relationships between several variables. In the Review of the Literature, Chapter II, a number of studies were cited that correlated achievement motivation to numerous other variables. It was also mentioned in Chapter II that findings have been inconsistent which have compared achievement motivation scores to grade point average and several other variables. This section of Chapter IV will further examine the relationship of achievement motivation and test anxiety to several of these variables.

Again, the hypotheses are stated in the null form. Pearson Product Moment correlations have been computed to test the null hypotheses. Tables are presented in matrix form following the null hypotheses.

Null Hypothesis XIII

There will be no significant correlation between (a) achievement motivation and internal-external control, and (b) achievement motivation and test anxiety.

Null Hypothesis XIV

There will be no significant correlation between (a) achievement motivation and instructor ratings, and (b) achievement motivation and grade point average.

Null Hypothesis XV

There will be no significant correlation between (a) test anxiety and grade point average, (b) test anxiety and teacher ratings, (c) test anxiety and internal-external control.

TABLE 21

CORRELATION COEFFICIENTS BETWEEN PRE-ACHIEVEMENT
MOTIVATION TEST SCORES, INTERNAL-EXTERNAL TEST SCORES
TEST ANXIETY SCORES, INSTRUCTOR RATINGS, AND
GRADE POINT AVERAGE

COLUMN=	(ACH. MOT.)	(I-E)	(TAQ)	(IR)	(GPA)
ROW= (ACH. MOT.)	1.00				
ROW= (I-E)	-0.44*	1.00			
ROW= (TAQ)	-0.16	0.13	1.00		
ROW= (IR)	0.09	-0.17	0.01	1.00	
ROW= (GPA)	0.22	0.07	-0.07	0.35*	1.00

*Significant at $\leq .01$

TABLE 22

CORRELATION COEFFICIENTS BETWEEN POST- ACHIEVEMENT
MOTIVATION TEST SCORES, INTERNAL-EXTERNAL TEST SCORES
TEST ANXIETY SCORES, INSTRUCTOR RATINGS AND
GRADE POINT AVERAGE

COLUMN=	(ACH. MOT.)	(I-E)	(TAQ)	(IR)	(GPA)
ROW= (ACH. MOT.)	1.00				
ROW= (I-E)	-0.60*	1.00			
ROW= (TAQ)	-0.02	0.22	1.00		
ROW= (IR)	0.10	-0.15	0.19	1.00	
ROW= (GPA)	0.01	-0.04	-0.06	0.51*	1.00

*Significant at $<.01$

As noted in Tables 21 and 22, the majority of the correlation coefficients did not achieve significance. Based upon these findings Null Hypothesis XIII was partially accepted.

Since there are some significant correlations the data warrants closer examination. The null hypothesis stating there will be no correlation between achievement motivation and internal-external control was rejected. It should be noted that a fairly high negative correlation exists between the groups achievement motivation scores and the locus of control scores. As the level of achievement motivation increased, the level of one feeling controlled by external forces decreased since a high score on the I-E Scale indicated strong feelings of being controlled by forces outside.

As the I-E score dropped members felt more in control of their destiny and less like a pawn. The negative correlation between achievement motivation and external control was significant at the .01 level for both pre- and post-testings.

The achievement motivation scores and the test anxiety scores correlated negatively but at a nonrespectably low level. The negative correlation did not reach significance.

Based upon the finding, Null Hypothesis XIV was accepted in full. Low correlation levels were found between achievement motivation scores, instructor rating scores, and grade point average. It is interesting to note the difference of pre- and post- correlations between achievement motivation and grade point average. The shift in achievement motivation level was not accompanied by a similar shift in grade point average.

Null Hypothesis XV was also accepted in full. The findings showed a low negative correlation between test anxiety scores and grade point average. Nonsignificant positive correlations were found between: test anxiety and external control, and test anxiety and instructor ratings.

As a final note, in the examination of Tables 21 and 22, it is evidenced that a significant correlation existed between instructor ratings and grade point average at both pre- and post- testings.

The data was further examined through the use of stepwise regression analysis. The stepwise

regression was first used to see if a procedure could be devised for predicting final GPA from the variables under investigation. The X variables, or the variables being predicted from, included: Pre-grade in program, Instructor Rating, Internal-External Score, Test Anxiety Score, and Achievement Motivation Score.

Table 23 summarizes the stepwise regression analysis. It is evidenced from the table that pre-grade in program and instructor ratings were the only distinguishable predictors. For this particular sample it is safe to say that Internal-External Control Scores, Test Anxiety Scores, and Achievement Motivation Scores were unable to predict final grade received in the participant's training program.

TABLE 23

STEPWISE REGRESSION ANALYSIS FOR FINAL GRADES
ON PRE- GRADES, INSTRUCTOR RATINGS, INTERNAL-EXTERNAL
CONTROL SCORE, TEST ANXIETY SCORES AND
ACHIEVEMENT MOTIVATION SCORES

VARIABLE	REGRESSION	REGRESSION SQUARED	F-VALUE
PRE-GRADE	.407	.1663	10.37*
INSTR. RATING	.476	.2274	4.03*
I-E SCORE	.488	.2389	0.75
TAQ SCORE	.489	.2395	0.03
ACH. MOT. SCORE	.489	.2400	0.03

*Significant at $<.01$

Summary of section three

Section three of Chapter IV examined the relationships between the selected variables included in this investigation. The variables under investigation were achievement motivation, locus of control, test anxiety, instructor ratings and grade point average.

The Pearson Product Moment Correlation was first used to examine relationships. The results indicated significant negative correlation between trainees achievement motivation and feelings of external control. A significant positive correlation was observed between trainees ratings by instructor and his grade received in the program. No significant correlations were obtained between trainees achievement motivation, test anxiety level, instructor rating and grades in program.

The stepwise regression coefficient was also utilized to determine which if any of the variables under investigation were useful in predicting final grade outcome. Only previous grades received in program and instructor ratings were seen as predicting final performance outcome with significant accuracy.

CHAPTER V

SUMMARY AND CONCLUSIONS

Introduction

Chapter IV presented the findings in the following organized manner: (1) Assessment of Treatment Effects, (2) Assessment of Treatment Effects Upon Individual Subgroups, and (3) Relationships of Significant Variables. To provide consistency and ease in readability, this chapter is organized under the same headings. Included within each heading will be: (a) a brief description of the significant findings, which includes: results of major hypotheses tested, data gathering instruments utilized, and a description of the groups that were examined, (b) conclusions and generalizations of the findings, (c) implications for future training programs, and (d) recommendations for future research pertaining to each section of the investigation.

As a conclusion to this chapter, the investigator acknowledges the limitations of the study and provides a list of generalizations that were derived from the study. The generalizations may possibly serve as a model or as guidelines in developing a model training program of a similar nature that could be incorporated and adapted to fit other settings.

Assessment of Treatment Effects:
Summary, Conclusions, Implications, and
Recommendations for Future Research

Summary of the findings

The training program was designed to investigate the following major hypotheses:

Experimental group trainees will not exhibit significantly greater change in achievement motivation than a control group of trainees

Experimental group trainees will not exhibit significantly greater change in internal control than the control group of trainees

Experimental group trainees will not exhibit significantly greater change in test anxiety than the control group of trainees

Experimental group trainees will not exhibit significantly greater change in teachers assessments of trainee's work related behavior than the control group of trainees

Experimental group trainees will not exhibit significantly greater change in grade point average than the control group of trainees

The Michigan State Motivation Scale was used to measure effects of treatment upon Experimental group trainees' achievement motivation level. The one hundred and fifty item scale was given to both groups before and after the incorporation of the training program. The treatment, as determined by the above measure, did significantly increase achievement motivation level of the twenty eight participants who completed the entire five month training program. A highly

significant change score, .01 level, was obtained by the Experimental group on the Michigan State Motivation Scale. The mean performance on achievement motivation remained constant for the Control group.

Significant reductions on the Internal-External Scale were also achieved as a result of the Training Program. Feelings of external control dropped during the duration of the treatment for Experimental participants whereas post-test means in external control showed a slight increase for the Control group.

There was no evidence of change in Test Anxiety, Instructor Ratings, or Grades by the Experimental or Control group. A slight but nonsignificant drop in Test Anxiety occurred for both groups. The Instructor Ratings for Experimental group subjects rose slightly during the Training Program, but significance was not obtained. Mean grade scores remained constant for both groups during the course of the semester.

Conclusions and generalizations

1. The training programs ability to increase achievement motivation but inability to effect performance outcome may be due to failures in instrumentation or inappropriate outcome criteria.

One of the significant findings of this research was in the area of increase in level of achievement motivation for the Experimental group. The initial level of achievement

motivation was quite similar for the two groups. Post-achievement motivation scores rose sharply for the Experimental group whereas a slight trend was evidenced in a positive direction for the Control group. Meanwhile, data on grade point average of the two groups revealed no difference during the duration of treatment. Several conclusions can be drawn from this phenomena which receives support from the related literature.

There were two elements in the study that would initially cause one to expect increase in grade point average for Experimental participants in their particular program area. First, the achievement motivation measure itself is slanted toward academic achievement. Therefore a drastic change in this scale might expectedly be followed by an academic change in school work outside of the group training program. Second, the most common and noticeable similarity between group participants was that they were all enrollees at the Vocational Center, were daily transported to the Center, and participated in one of the programs at the Center. It might be expected, therefore, that an increase in achievement motivation would manifest itself directly at the Center within the participants chosen vocational program. This phenomena did not occur for the following reasons.

Despite the fact that: the training program was conducted at the vocational center, many activities did involve student's progress in their chosen vocational area, and it was desirable to increase grade point average, it is concluded

that the overall purpose cannot be limited simply to stimulate students to make better use of their opportunities in school. In fact, research on achievement motivation training for students provides little evidence for increased grades in school. It has been stated (Alschuler et. al., 1970) that n Ach training most often results in more purposeful planning and action outside of school, where students are more clearly "in charge" of their lives. Accordingly an increase in achievement motivation could manifest itself in a number of forms as: jobs, athletics, hobbies, etc.

Therefore, despite an initial feeling that ^othe Michigan State Motivation Scale was slanted to school and academic areas, it is conceivable that the scale was sensitive to general striving towards excellence in a number of areas, specifically those that are job related. It is also conceivable that grades, being less under the control of those high in n Achievement, may be poorer measures of academic involvement than measures more under the control of those high in n Achievement. The investigator believes that the rewards of the school system; namely, grades, would be an adequate criteria for such an investigation, only if the goals of the educational system coincide with the goals of the person high in n Achievement.

2. The training programs effectiveness in reducing external control feelings, but ineffectiveness upon fear of failure feelings may be reflective of treatment and sample characteristics.

McClelland and Winter (1969) and deCharms (1969) have at various times stated that where achievement motivation training is effective there appears to be an increase in self-reliant feelings among participants. Both seem to be referring to dimension in the personality of everyone, which has as its opposite poles a feeling of being in control, autonomous, or self-reliant as opposed to a feeling of being controlled, fated, or destined by outside life forces. These opposites are often referred to as Origin-Pawn feelings. Surprisingly enough actual attempts to measure change in this dimension due to achievement motivation training have been rare. In most cases the measure has been indirect and in the form of observing whether one becomes more action oriented following training. If productive activity increased, then the assumption was that feelings of greater internal control were also developed.

Another reason for lack of measurement in this area may be due to the scarcity of available instruments that can with creditability measure internal-external control feelings. Despite these limitations the investigator found it necessary to focus attention on potential change in internal-external control. Rotter's Internal-External Control Scale was utilized. The scale did reveal pre- post- significant changes for Experimental trainees in the direction of greater internal control. The results did coincide with the thinking of McClelland and others that the achievement motivation training program would tend to increase self-reliant feelings among participants.

A feeling of personal efficacy or a feeling of "being able to control me better" was increased.

The Test Anxiety Questionnaire developed by Sarason (1954) is widely accepted as the measuring instrument for fear of failure. Fear of failure is one of the main thought characteristics of the person with high need to achieve. In a sense the fear of failure is a motivator for the high achiever. It is detrimental when developed to a high level. Then the anxiety serves as a debilitating factor in achieving one's goal. In such cases, the person often refuses to attempt to achieve in an area because of his or her constant fear of failure. The average level of fear of failure for the total group, Experimental and Control, was 47.49. According to most studies utilizing the TAQ in the same manner, this is an average or below average level. Thus, it is unlikely that a program as conducted would drastically reduce fear of failure which can be considered as a motivator to the high achiever. In fact, the investigator was not initially certain if a possible increase in test anxiety would develop.

It is concluded that significant reduction in test anxiety might have taken place if: (1) the sample consisted of students initially diagnosed as possessing excessively high test anxiety scores, and (2) additional treatment such as desensitization were incorporated in the training program. Under these two conditions the training program could have possible effects upon self-esteem of trainees, as well as reduction in test anxiety.

3. The effects of the achievement motivation training program may not be readily observable in a one-semester time period.

In reviewing the overall design utilized in the present investigation the question of time allotted for measurable change quickly comes into focus. As previously stated, little shift occurred in participants grade point average. Also, only a slight directional change was observed in Experimental groups instructor rating scores. This trend was in the positive direction but failed to reach significance. Because of the resultant data and previously cited training programs conducted in business settings, the time involved for measurable change to take place certainly demanded review.

For example, it is noted that the Achievement Motivation Training Programs conducted for businessmen in a large corporation in the United States and for businessmen in India, a sizeable period of time was allowed before determining training program effects. This involved as much as two years following completion of the training program. During that time lapse constant checks were made regarding the progress of these businessmen which also, in the opinion of the investigator, served as a reminding or motivating force that encouraged action by the businessmen. It was also found in the business studies that initially following the training program little immediate action or change took place. In many cases action strategies had to be developed and/or the opportunity for change to occur had to be present. Thus, there was an initial "waiting period" for many participants.

The organization of the present training program directs itself to the importance of time and continuity in its overall design. The investigator has observed an important sequence of events that could be necessary in order for the treatment to be effective. This is evidenced in the fact that the training program was viewed in three phases. The first phase involved cognitive input whereas the achievement motivation concepts were introduced to participants. The second phase of the program offered the opportunity to experience thoughts and feelings similar to the high achiever, who strives for completion of a task often under certain time restraints. The final phase of the program centers about applying the newly learned concepts outside of the group and into one's own life space. The final phase is considered by the researcher to be the most difficult and also the weakest aspect of most group training programs. An exorbitant number of extraneous variables enter at this particular point which often interferes with direct application of newly learned principles. The first dramatic change is loss of group support which in most cases has served as a motivating force for the individual participant. Once this is gone the real or outside world too often seems unrelated and inconsistent with previous within group activities. Therefore, in too many cases involving school courses, special training programs, or group programs, the transition of utilizing newly learned concepts or insights obtained within the program never occurs outside of the micro lab setting.

The investigator attempted to overcome the weaknesses of previous training programs by focusing on goal setting outside of the group along with a follow-up regarding goal accomplishment. This aspect of the program took place towards the end of the semester. The Experimental participants did set goals according to an achievement thinking plan. To assist in personal goal setting an individual conference was held with each participant. Also a final meeting at the end of the semester provided the opportunity for participants to talk about their goal accomplishments. During this phase it was found that not enough time was allowed for goal accomplishment. Many participants set goals relating to accomplishments in their particular program area. The few weeks remaining until the end of the semester was seen as not long enough for significant change or accomplishment to take place. For example, one student stated as his goal to complete all required tasks to obtain an "A" in the Heating and Air-Conditioning Program. It was soon found that this particular goal was unrealistic considering the amount of time remaining in the semester. Another student set out to obtain a part-time or full-time job in his skill area before the completion of the semester. It was soon evident that the opportunities for immediate employment in his area were bleak at the time. Despite taking the initiative in making outside employment contacts several external conditions prevented early successful goal accomplishment by the students.

The investigator therefore concludes that: (1) more time must first be given in terms of group or individual conferences in the goal setting phase. This would allow for more realistic goal setting. (2) More time must be allowed for actual goal accomplishment. Two to three weeks does not afford enough time, especially when dealing with such uncontrollable conditions as witnessed in today's economy. (3) A longer and more thorough follow-up should be included that would allow for change to take place and would also serve as a motivator in the form of a reminder to the participant.

4. The treatments inability to effect academic performance may be due to the lack of a comprehensive design that would involve a greater number of support systems and would control for a wider range of external variables.

Achievement motivation has been identified as one of the key variables that plays a major role in determining performance level and outcome. The investigator believes it is important to carefully consider the outcome desired when organizing a particular training program. Previous literature produced mixed results regarding achievement motivation training effects upon academic performance as measured by grade point average. The present training program revealed no effect upon academic performance of participants. It is concluded that only when a high degree of additional variables are diagnosed and treated will such change become predictable.

Therefore, a more comprehensive design might be needed that would involve a larger number of people and would focus upon individual strengths, weaknesses, and total life sphere. A broader support system would thus be utilized that would involve the counselor working together with the teacher, the reading specialist, the school psychologist, the nurse, and the parents. In this way a consistency could be provided that would contribute toward the final goal.

Implications

1. Training programs in achievement motivation should focus on a diversified number of possible outcomes that are within the participant's control.

The teaching of achievement motivation is based upon the assumption that the desire to achieve excellence in something is inherent in all humans. It is believed that this desire can be kindled but that one does not predetermine the kind of excellence that another might desire. In short, achievement motivation involves a special way of planning to attain excellence, a set of strong feelings about doing well, and specific action strategies. Therefore, the achievement motive can manifest itself in a number of ways depending upon the current value system of the individual.

Treatment designs should therefore take into account the diversity of individual differences and broaden the range of

outcomes investigated. This range may go beyond grades, attendance and into activities outside of the school that have importance for the individual. Only in this fashion will a more comprehensive measure of individual striving be obtained that will to a greater degree reflect behavioral change and treatment outcome.

2. New treatment designs in addition to those presently employed must be incorporated to have an effect upon fear of failure.

As previously mentioned, the Test Anxiety Questionnaire was utilized to measure fear of failure. The score dictates the strength of the motive to avoid failure. Prior investigations have revealed a $-.43$ correlation between achievement motivation as measured by the Thematic Apperception Test and Test Anxiety, or fear of failure. In the present investigation the sharp rise in achievement motivation was not accompanied by a sharp drop in test anxiety. It was previously concluded since the TAQ scores for this sample were not initially high the variable was not crucial or debilitating in regard to student's test performance. No special treatment beyond the familiar achievement motivation ingredients were incorporated into the program.

For future programs, new treatment designs are necessary if progress is to be achieved in reducing test anxiety. Traditional activities associated with the training program are insufficient. Additional experiences based upon successful research finding would have to be added to meet program objectives.

3. More efficient utilization of time in the program and a longer follow-up after the program is needed in order to fully investigate program outcome.

This investigation showed that a relatively short-term treatment, five months, effectively changed achievement motivation and external control level. Nonsignificant changes within the classroom were also revealed during the same length of time. The transference of the learning could involve a longer and more complex process. More than one semester might be needed in order to adequately observe outcomes. An alternate design could include a more compact training program involving fewer weeks but meeting for at least six hours per week. Possibly the same or even more impact upon participants could be evidenced in a shorter more intense time period. This design would include a longer follow-up and thus allow greater time for participants to apply achieving behavior outside of the training program. Also during this time participants still could have access to the group and the group trainer for support and encouragement.

4. Training programs in increasing achievement motivation should be organized to include teachers and other staff members who are in contact with participants.

The opportunity to achieve has to be present along with the motive to achieve. In the school system this opportunity

is afforded by the teacher who encourages and challenges the student. It is also afforded by the reading specialist, the tutor, school nurse, etc., who help overcome any barriers that prevent the student from reaching his goal. If one is motivated and his goal is higher performance within the school than the opportunity should be made available for one to accomplish the goal through a cooperative effort of all staff members.

Recommendations for Future Research

Additional studies of this nature are clearly needed. Such investigations should focus on and involve themselves in a number of areas. The findings of this investigation direct themselves to additional needed research that would focus upon possible outcomes of the training program beyond increase in achievement motivation and academic performance. Possibly additional behavioral criteria could be incorporated that would measure changes in one's activity in a variety of areas. This would possibly be in the form of an activities code similar to the one utilized in the programs involving businessmen.

Future training programs that would involve the teacher and other school personnel should be undertaken. It seems the effects of a more extensive program that utilizes a number of resources in a cooperative manner could be more impactful. Such a program would possibly assist teachers to become more aware of the student's feelings toward their particular class

or school in general. The achievement motivation concepts and goal setting could also be applied to a greater degree by instructors in their classes. An example would be to encourage instructors to give students more concrete and immediate feedback regarding progress and to set goals for the course that are clear and reachable by all students.

A research design that focuses upon the different aspects of treatment is recommended. The present training program was organized in three phases: cognitive teaching, in-group experiencing, and out-group application. It is recommended that future searches measure the effects of each specific phase in addition to measuring the overall effects of the training program. On-going measures and observations would thus take place during the treatment. Also a rearrangement of the present training program could possibly be investigated. The present program began in the cognitive domain with the dissemination of information regarding the high achievers feelings, thoughts, and action strategies. The affective domain was stressed later in the program with the utilization of "who am I" activities and a more intensive discussion of how achievement motivation thinking fits with one's current attitudes and feelings about self. It is believed that a program that concentrated on the affective domain first and then continued with the introduction of achievement thinking and planning could also be effective.

Finally, it is believed that a similar program could be encompassed within a week time period without losing its effect.

The week would be more intense and the effect of outside variables during this short time in comparison to one semester would be less. This research design would be recommended only if a longer follow-up was included where participants could meet once every two or three weeks. The extended follow-up meeting would focus upon whether or not participants were utilizing any of the training principles and how members were progressing on their achievement plans. The additional time following the treatment may also provide more opportunities for participants to accomplish their stated goals.

Assessment of Treatment Effects Upon Individual Subgroups: Summary, Conclusions, Implications, and Recommendations for Future Research

This section of Chapter IV attempted to answer the question, "what subgroups within the experimental sample seem to have benefited the most from the treatment?" This question is a concern of all training programs that attempt to design experiences that are geared to the individual characteristics and needs of participants. Too often a successful training program is perceived as a cure all for a diversified number of groups. In such cases, when programs are hastily organized and adopted in strange settings, they tend to be met with suspicion and only minimal positive results are obtained. For this reason the investigator believed it was necessary to examine treatment effects upon individual subgroups.

The following hypotheses were tested in this section:

There will be no significant differences in aptitude between Experimental group trainees who demonstrate the greatest increase in achievement motivation and those who demonstrate the least

There will be no significant differences in initial level of achievement motivation between Experimental group trainees who demonstrate the greatest increase in achievement motivation and those who demonstrate the least

It was found that participants with low aptitude test scores, (n=11), benefited from treatment just as did students with high general aptitude test results, (n=9). In fact, when high, medium, and low aptitude groups were analyzed in regard to increase in achievement motivation, it was discovered that the low aptitude groups' mean change scores on the Michigan State Motivation Scale were slightly above that of the high aptitude groups change score.

Achievement motivation change scores of three subgroups, organized according to their initial scores, were also analyzed. Achievement motivation level for all three subgroups significantly changed, according to scores on the Michigan State Motivation Scale.

Conclusions and generalizations

1. Neither general aptitude as defined by the Differential Aptitude Test Battery nor initial achievement motivation as defined by the Michigan State Motivation Scale was critical in determining the degree of change in achievement motivation due to the Experimental treatment.

A legitimate concern in the mind of the researcher at the programs onset was whether aptitude would be a significant factor in determining whether or not one would readily grasp and internalize the early content phase of the training program. It was feared that the early phase of the program which defined the achievement motive, focused upon achievement thinking, and spelled out the basic action strategies of the high achiever, would be boring and "turn off" some students; especially those low in reading and writing skills. This was a critical period in the training program that involved participant's evaluation and judgment as to the potential worth and meaningfulness of the experience. During this time a fairly sophisticated amount of research was presented along with a completely new terminology in regard to achievement motivation thoughts and action strategies.

Knowing in advance that the above ingredients were to be included early in the research design, the investigator purposefully focused on the role played by participants aptitude. The findings revealed that early concerns regarding participant's aptitude were not warranted. In fact, in this investigation, lower aptitude students increased their achievement motivation level at a higher degree than high aptitude students. It is therefore concluded that general aptitude measured by The Differential Aptitude Test Battery is not a determining factor regarding participant's ability to benefit from the Training Program.

A second variable analyzed along with aptitude was the participant's achievement motivation level prior to entering the training program. The investigator was concerned as to whether or not initial achievement motivation would play a significant role in determining the degree to which one would benefit as a result of the training program. Therefore, three subgroups within the Experimental group were identified according to high, medium, and low achievement motivation. The three subgroups were analyzed according to pre- post- change scores in achievement motivation. Since the results showed a significant increase in achievement motivation for all three groups, it was concluded that the entry achievement motivation level was not critical in determining whether or not students could benefit from the training program.

The above evidence suggests that one does not have to possess a high or even moderate level of achievement motivation to benefit from the training program. In fact, the McClelland literature (1967, 1969) states that few individuals do score high in achievement motivation as measured by the Thematic Apperception Test. It therefore can be generalized that when selecting potential trainees one should not be overly concerned about entry achievement motivation level. But it also should be realized that, as with other training programs, involvement should be voluntary and that no participant should be forced or coerced into the program.

Implications

1. In the selection of potential participants for the achievement motivation training program neither aptitude nor achievement motivation should be considered as critical variables. Additional background characteristics and personality traits should be analyzed.

It is obvious from the results that neither aptitude or initial achievement motivation level were critical in determining whether participants could benefit from the training according to the achievement motivation criteria. But these results do not overshadow the investigators belief in an "individualized" treatment approach. It is possible that through the goal setting some degree of individualization is built within the presently structured training program. The individual conferences during the final phase of the training should also be included in future programs for this specific purpose.

The area of relating participants background and personality traits to benefits obtained from the presently designed training program is still unexplored and in need of research. It is hoped that as programs of this nature are utilized investigators will focus upon additional pre-training differences. In this way future designs will include activities that will precisely relate to participant needs and thus will allow for maximum training benefit.

Recommendations for Future Research

Additional information is needed concerning the effects of the training program upon carefully defined subgroups. It is recommended that future researchers make a concerted effort to investigate this area. Through a scientific method training programs can potentially gain greater creditability with a larger segment of the population. Also, as designs of such programs expand to include additional support systems, the need for comprehensive initial diagnosis of entering participants becomes even more crucial. In this manner it is believed that the question of "what programs for which students for what purposes" can be answered.

Relationships of Significant Variables: Summary, Conclusions, Implications, and Recommendations for Future Research

Summary of the findings

Section three of Chapter IV examined the correlation coefficients of achievement motivation, internal-external control, test anxiety, instructor ratings, and student grades. Significant negative relationships were found between achievement motivation and feelings of being controlled by external forces. A significant positive relationship was discerned between instructor ratings and grades obtained.

The stepwise regression coefficient revealed that pre-grade in program and instructor rating were the only accurate variables in predicting post-grade in the student's program area.

Generalizations and conclusions

1. The behavioral manifestations of achievement motivation transcends the school setting and may be more difficult to observe than is currently believed.

The relationship between achievement motivation as measured by the Michigan State Motivation Scale, and student school performance as measured by the Instructor Ratings Scale and grades was nonsignificant. Nonsignificant relationships were also revealed between the following variables: Internal-External Control as measured by Rotter's Internal-External Control Scale, test anxiety as measured by The Test Anxiety Questionnaire, and student performance as measured by the Instructor Rating Scale and grades in program. The nonrelationship between achievement motivation and student's school performance seems to be the most pertinent of the above findings. The results suggest that achievement motivation as measured in this investigation is a broader concept than is traditionally thought. The findings indicate that the behavioral manifestations of achievement motivation may be more difficult to determine and certainly demand additional research.

2. Persons high in achievement motivation feel more like an origin or in control of their environment in comparison to feelings of a pawn or being controlled by external events.

The research bore out the beliefs of several theorists, (McClelland, et. al.) that the highly achievement oriented person also feels more "in control." He feels that what he does can have an effect upon his immediate environment. He feels less that his destiny is fated due to external forces. These findings fit with the action strategies that are characteristic of the high achiever: a moderate risk-taker, likes concrete feedback, likes to take personal responsibility, and researches the environment when undertaking new tasks.

Implications

1. In attempting to understand the effects of achievement motivation on individuals behavior, researchers should focus upon a broad base of activities within the individual's life sphere.

As evidenced in Chapter III, past research has related the achievement motive to number of variables. Such variables as persistence at a task could be expected to manifest itself in several areas. One possible area might be within the school setting. Results declined to validate this assumption. Thus, the findings suggest additional assessment techniques of a broader nature be utilized in determining achieving behavior.

2. The highly achievement oriented person is more likely to seek situations where he is in control and is less under the control of external

forces. It is therefore essential that training programs foster these desires.

Past literature has made reference to the Origin-Pawn feelings. Everyone has experienced these feelings at various times. The high achiever attempts to move more towards origin feelings. He seeks situations where he has some responsibility and control over the outcome.

Based upon this data, further implications can be made for future training programs. It becomes vital that origin feelings be supported. Opportunities within the program for input by participants and for responsibility taking thus seem essential if such feelings are to be fostered and in turn the programs are to be successful.

Recommendations for future research

For this section of the study the investigator recommends additional research that would more operationally define achievement motivation. The most general definition of "striving towards excellence" certainly needs further expansion and greater delineation.

Limitations of the Study

An investigation of this nature has certain limitations that should be acknowledged. Major inherent limitations include: sample size, characteristics of the sample and of the setting, and instrumentation weaknesses.

1. Sample size

Despite careful matching of experimental and control group students, and the use of random selection procedures one should only with caution generalize to larger groups from a sample size of twenty eight.

2. Sample and Setting Characteristics

The sample consisted of students who were in training at an Area Vocational Education Center. Generalizations from the results should probably be limited to students enrolled at a center similar in nature to the one used in this investigation.

3. Instrumentation

This study is limited to the degree to which the instruments used are valid measures. Achievement motivation level is an especially difficult area to quantify. For this reason several instruments were used in this investigation. The main achievement motivation criteria used, the Michigan State Motivation Scale, is severely limited by mainly focusing on academic achievement. It is evident that a need exists for the development of additional measures that will measure in broader terms one's achievement motivation level and that will extend beyond the academic and employment setting.

4. Time and the Control of Extraneous Variables

This study is also limited by the amount of time that was provided for change to occur. Thirty hours can be viewed as a proportionally small amount of time when extended over five months. Also, the multitude of extraneous variables, within and outside of the school setting, becomes extremely difficult to control over such a lengthy time period.

Training Program Guidelines

As a conclusion to Chapter V the investigator submits a list of guidelines that were derived from the investigation. This listing may serve as a model or the beginning point in developing a model for future training programs. It should be emphasized that the generalizations are simply guidelines and that their utilization should take into account participant and setting characteristics.

1. Training programs of this nature should be voluntary. Since motives for entering may be varied, participants should be free to leave the program at any time. Only through free choice will participants become involved and maximize benefits by internalizing program concepts.
2. Training programs should allow opportunities for participant input decision-making and responsibility taking. Earlier sessions, as well as later sessions should provide opportunities for participant input. This ingredient will foster a sense of internal control and facilitate trainee involvement.
3. The training program should have an overall structure that is made visible to participants. The relationship between experiences should be discussed and clearly understood by participants.
4. The training program should be balanced between cognitive input and affective experiences. The participants should be able to relate the meaningfulness of the experiences along with having the opportunity to become affectively involved.
5. The training program should involve a large number of outside support systems. This may include individual persons as the teacher or a comprehensive facility as a reading clinic. This approaches an individualized program that allows for maximum growth.
6. The training program should continually relate within group activities to participant's outside experiences.
7. The training program should provide for a smooth transition between program termination and participant involvement outside of the program.
8. The training program should provide for a long range follow-up that would serve as a support system and additional incentive base for continued participant activity.
9. The program should provide the means for obtaining a broad base of measurable information regarding behavior changes of participants.

10. The program should provide a means of measuring and observing participant changes during program implementation.
11. The program should provide for check points where overall evaluation of activities can take place.
12. The training program should provide feedback to participants from trainer and others regarding observable changes. Also, feedback from participants regarding alternate training strategies should be provided.

Summary of Chapter V

This chapter followed the outline set forth in Chapter IV. It further expanded upon that chapter by: summarizing results, drawing conclusions, generalizations, and implications, and making recommendations for future research.

As an assessible resource to assist future program designs, a list of training program guidelines was included. Generalizations were based upon findings and experiences obtained by the investigator when conducting the present training program.

APPENDIX A

INSTRUMENTS UTILIZED TO MEASURE THE
EFFECTS OF THE ACHIEVEMENT MOTIVATION
TRAINING PROGRAM

1. The Michigan State Motivation Scale
2. The Internal-External Scale
3. The Test Anxiety Questionnaire
4. The Instructor Rating Scale

I. THE GENERALIZED CHOICE INVENTORY

This is a survey of your choice. There are no right or wrong answers. The results will in no way affect your grades in school.

The inventory is made up of pairs of statements. Read each pair carefully. Choose the one you would most prefer or like to do.

Answer all questions as honestly and frankly as you can. Only in this way will the results be meaningful. Remember this inventory is about you and you alone. This is not a survey of what you can do, but of what you would like to do. Please circle your answer.

If you have any questions, raise your hand. If not, then begin answering the questions. Do not skip any questions. Work as rapidly as you can and do not spend too much time on any one item.

Remember this is not a survey of what you can do but of what you would prefer to do.

I would prefer to:

1. 1) Avoid failing in school, or
- 2) Do well in school

2. 1) Receive a grade on the basis of how well I did on the teacher's test, or
2) Get a grade on the basis of how hard I tried
3. 1) Have the best teachers in the state in my school, or
2) Have a large recreation center in my school
4. 1) Buy a car, or
2) Continue my education
5. 1) Be well prepared for a job after graduation from high school, or
2) Be well prepared to continue learning
6. 1) Have the teacher give everyone the same grade at the beginning of the semester and know I had passed, or
2) Take chances of getting a higher or lower grade at the end of the course
7. 1) Develop a new product which may or may not be good, or
2) Make a product as good as the best one available
8. 1) Receive money for my good grades, or
2) Be allowed to take any course I wanted because of good grades

I would prefer to:

9. 1) Be successful in finishing a job, or
2) Finish a job
10. 1) Get excellent grades because I have a great deal of ability, or
2) Get average grades because I have average ability

11. 1) Be graded at the end of a course with the possibility of making an "A", or
2) Get a "C" at the beginning of a course along with everyone else
12. 1) Make quick decisions and sometimes be right and sometimes be wrong, or
2) Deliberate or think carefully over decisions and usually be right
13. 1) Be allowed to take extra courses before or after school, or
2) Just take courses offered during the school day
14. 1) Complete a job which I recognize as difficult, or
2) Complete a job which others recognize as difficult
15. 1) Do as well as most of my classmates, or
2) Do better than most of my classmates

I would prefer to:

16. 1) Be considered as being strong but not very smart, or
2) Be considered as being weak but smart
17. 1) Be known as a person with much ability, or
2) Be known as a person with adequate or enough ability
18. 1) Work at many less important jobs which I know I could finish, or
2) Work at one very important job which may never be entirely finished in my life-time
19. 1) Be paid for how well I did a job, or
2) Be paid the same amount no matter how I did the job

- 20. 1) Work rapidly just "skimming" along, or
2) Work slowly with great thoroughness
- 21. 1) Have a better job than my father has, or
2) Have a job like my father has
- 22. 1) Have a great deal of money, or
2) Be an expert in my favorite school subject
- 23. 1) Have average ability and be liked by many people, or
2) Have superior ability but not be liked by as many people

I would prefer to:

- 24. 1) Have everybody in the class get a "C" at the beginning of the course, or
2) Be graded at the end of the course with the possibility of getting a higher or lower mark
- 25. 1) Receive a grade on the basis of how much my teacher thinks I have learned, or
2) Take a course from a teacher who gives "C"s
- 26. 1) Be paid for the amount of work I did, or
2) Be paid by the hour
- 27. 1) Study my assignments during study time, or
2) Wait until the mood strikes me
- 28. 1) Think of an idea that nobody has ever thought of, or
2) Set a world's speed record
- 29. 1) Do what I think is right, or
2) Do what others think is right

- 30. 1) Work overtime to make more money, or
- 2) Get more schooling to make more money

I would prefer to:

- 31. 1) Inherit a great deal of money, or
- 2) Earn a great deal of money
- 32. 1) Wait until I had finished college and make a better salary, or
- 2) Get a job right after high school and make a good salary
- 33. 1) Plan my life in advance, or
- 2) Live my life from day to day
- 34. 1) Study to go to technical school or college, or
- 2) Study to get out of high school
- 35. 1) Have a great deal of influence over people, or
- 2) Have a great deal of ambition
- 36. 1) Carry out the plans of others, or
- 2) Create something of my own
- 37. 1) Be known as being a "good guy", or
- 2) Be known as a person who "does things well"
- 38. 1) Be very happy, or
- 2) Have lots of money

I would prefer to:

- 39. 1) Be known as a person who knows his own mind, or
- 2) Be known as a person who gets help in making decisions
- 40. 1) Do something like everyone else, or
- 2) Do something outstanding

- 41. 1) Put together a new object, or
2) Develop new ideas
- 42. 1) Be demanding on myself to do good work, or
2) Be demanding on my friends so that they will
do good work
- 43. 1) Do something that I have done before, or
2) Do something that I never have done before
- 44. 1) Discover a gold mine, or
2) Discover a new medicine
- 45. 1) Have one of my children win a beauty contest, or
2) Have one of my children win a college scholarship
- 46. 1) Have a job where I solve problems no one else can, or
2) Have a job which permits me to take off days when
I want

I prefer:

- 47. 1) A job where my opinion is valued
2) A job where I could not be fired
- 48. 1) A job which does not tie me down
2) A job which absorbs my interests
- 49. 1) A job where I could decide how the work is to be done
2) A job where I make few if any decisions
- 50. 1) A job which does not tie me down
2) A job where I could continue to learn the rest
of my life
- 51. 1) A job where I could not be fired
2) A job which absorbs my interests

- 52. 1) A job where I make few if any decisions
2) A job where I solve problems no one else can
- 53. 1) A job where I could become known for outstanding accomplishments
2) A job which requires little thinking
- 54. 1) A job which has high work standards
2) A job where I make few if any decisions
- 55. 1) A job with short working hours
2) A job where I solve problems no one else can
- 56. 1) A job which requires little thinking
2) A job where my opinion is valued
- 57. 1) A job where I make few if any decisions
2) A job where I could become known for outstanding accomplishments
- 58. 1) A job where I could not be fired
2) A job where I could decide how the work is to be done
- 59. 1) A job which does not require a college education or an education above high school
2) A job where I could continue to learn the rest of my life
- 60. 1) A job where my opinion is valued
2) A job where I make few if any decisions

II. WORD RATING LIST

Following is a list of words teachers may use to describe students. You are to rate yourself on each word as you think your teachers would rate you.

Be sure to describe yourself as your teachers would,
not as you would describe yourself.

Rating Number

1.....This word would never describe me

2.....This word sometimes describes me

3.....This word usually describes me

4.....This word always describes me

After you decide how your teachers might rate, circle
your answer.

If you have any questions, raise your hand. If not,
begin rating all of the words. Do not skip any words.

Work as rapidly as you can and do not spend too much time
on any one word.

RATINGS: 1 = Never 2 = Sometimes 3 = Usually 4 = Always

Teachers feel that I am:

	N	S	U	A
61. patient	1	2	3	4
62. talented	1	2	3	4
63. efficient	1	2	3	4
64. practical	1	2	3	4
65. confident	1	2	3	4

Teachers feel that I am:

	N	S	U	A
71. orderly	1	2	3	4
72. purposeful	1	2	3	4
73. uninterested	1	2	3	4
74. studious	1	2	3	4
75. different	1	2	3	4

Teachers feel that I am:

	N	S	U	A
66. logical	1	2	3	4
67. smart	1	2	3	4
68. successful	1	2	3	4
69. careful	1	2	3	4
70. thorough	1	2	3	4

Teachers feel that I am:

	N	S	U	A
76. responsible	1	2	3	4
77. original	1	2	3	4
78. consistent	1	2	3	4
79. intelligent	1	2	3	4
80. in-the-know	1	2	3	4

Teachers feel that I am:

	N	S	U	A
81. rebellious	1	2	3	4
82. nervous	1	2	3	4
83. systematic	1	2	3	4
84. reckless	1	2	3	4
85. dependable	1	2	3	4

Teachers feel that I am:

	N	S	U	A
96. ambitious	1	2	3	4
97. contented	1	2	3	4
98. an achiever	1	2	3	4
99. a planner	1	2	3	4
100. competent	1	2	3	4

Teachers feel that I am:

	N	S	U	A
86. a person who postpones	1	2	3	4
87. demanding	1	2	3	4
88. lazy	1	2	3	4
89. stubborn	1	2	3	4
90. carefree	1	2	3	4

Teachers feel that I am:

	N	S	U	A
101. teachable	1	2	3	4
102. impatient	1	2	3	4
103. passive	1	2	3	4
104. easily distracted	1	2	3	4
105. reliable	1	2	3	4

Teachers feel that I am:

	N	S	U	A
91. intellectual	1	2	3	4
92. alert	1	2	3	4
93. above average	1	2	3	4
94. productive	1	2	3	4
95. a thinker	1	2	3	4

Teachers feel that I am:

	N	S	U	A
106. serious	1	2	3	4
107. driven	1	2	3	4
108. brilliant	1	2	3	4
109. aggressive	1	2	3	4
110. a leader	1	2	3	4

III. HUMAN TRAIT INVENTORY

Following is a list of statements about YOU. Read each statement carefully. Then decide whether this statement is how you always feel, usually feel, sometimes feel or never feel.

RATING NUMBER

- 1.....This statement would never describe the way I feel.
- 2.....This statement sometimes describes the way I feel.
- 3.....This statement usually describes the way I feel.
- 4.....This statement always describes the way I feel.

Please answer each statement. Do not leave any blank.

There are no right or wrong answers. The answers only apply to you. The way you answer these statements will not affect your school grades in any way. Circle the number that best describes how you feel.

RATINGS: 1 = Never 2 = Sometimes 3 = Usually 4 = Always

- | | |
|---|--------------------|
| 111. I worry about my grades | N S U A
1 2 3 4 |
| 112. I have been quite independent and free from family rule | 1 2 3 4 |
| 113. When I have an opinion, I stand up for it | 1 2 3 4 |
| 114. It is difficult for me to keep interested in most of my school subjects | 1 2 3 4 |
| 115. I have difficulty working under strict rules and regulations | 1 2 3 4 |
| 116. I flirt | 1 2 3 4 |
| 117. Most of my school subjects are a complete waste of time | 1 2 3 4 |
| 118. Most of my school subjects are useful | 1 2 3 4 |
| 119. I find it difficult to find the time to study my assignment for the next day | 1 2 3 4 |
| 120. I have done something that is considered dangerous just for the thrill of it | 1 2 3 4 |

- | | | |
|------|--|---------|
| 121. | Even when I sit down to study, I find that my mind tends to wander | 1 2 3 4 |
| 122. | When I was a youngster, I stole things | 1 2 3 4 |
| 123. | I have to be in the mood before I can study | 1 2 3 4 |
| 124. | I like to make the best grades possible | 1 2 3 4 |
| 125. | I like to study | 1 2 3 4 |
| 126. | I like to plan very carefully what courses I will take in school | 1 2 3 4 |
| 127. | I have played hooky from school in the last five months | 1 2 3 4 |
| 128. | I plan my activities in advance | 1 2 3 4 |
| 129. | I want very much to be a success | 1 2 3 4 |
| 130. | I work under a great deal of tension | 1 2 3 4 |
| 131. | I have trouble waiting for a class to be over | 1 2 3 4 |
| 132. | I get disgusted with myself if I don't do as well as I should | 1 2 3 4 |
| 133. | I feel that I haven't any goals or purpose in life | 1 2 3 4 |
| 134. | I like to be consistent in the things I do | 1 2 3 4 |
| 135. | I like to go to the movies more than once a week | 1 2 3 4 |
| 136. | I would like to belong to a motorcycle club | 1 2 3 4 |
| 137. | I take on more work than I should | 1 2 3 4 |
| 138. | While on buses, I strike up a conversation with a stranger | 1 2 3 4 |
| 139. | I belong to a crowd that tries to stick | 1 2 3 4 |
| 140. | I like to keep people guessing what I'm going to do next | 1 2 3 4 |

- | | | |
|------|---|---------|
| 141. | The question on school tests often confuse me because I don't know what they are driving at | 1 2 3 4 |
| 142. | I like large noisy parties | 1 2 3 4 |
| 143. | I learn slowly | 1 2 3 4 |
| 144. | It would be worthwhile to belong to several clubs | 1 2 3 4 |
| 145. | I think I would like the work of a teacher | 1 2 3 4 |
| 146. | I would be happier if I were able to travel around the country | 1 2 3 4 |
| 147. | I feel cross and grouchy without good reason | 1 2 3 4 |
| 148. | I like being with people in social gatherings | 1 2 3 4 |
| 149. | I think teachers are wrong many times and won't admit it | 1 2 3 4 |
| 150. | The way I do things is misunderstood by others | 1 2 3 4 |
-

IV. LIST OF STATEMENTS

The following list of statements is about a number of different topics. Please circle the statement for each question which you believe to BE mostly correct. Work rapidly and answer all questions.

151. a. Children get into trouble because their parents punish them too much.
- b. The trouble with most children nowadays is that their parents are too easy with them.
152. a. Many of the unhappy things in people's lives are partly due to bad luck.
- b. People's misfortunes result from the mistakes they make.

- 153. a. One of the major reasons why we have wars is because people don't take enough interest in politics.
b. There will always be wars, no matter how hard people try to prevent them.
- 154. a. In the long run people get the respect they deserve in the world.
b. Unfortunately, an individual's worth often passes unrecognized no matter how hard he tries.
- 155. a. The idea that teachers are unfair to students is nonsense.
b. Most students don't realize the extent to which their grades are influenced by accidental happenings.
- 156. a. Without the right breaks one cannot be an effective leader.
b. Capable people who fail to become leaders have not taken advantage of their opportunities
- 157. a. No matter how hard you try some people just don't like you.
b. People who can't get others to like them don't understand how to get along with others.
- 158. a. Heredity plays the major role in determining one's personality.
b. It is one's experiences in life which determine what they're like.
- 159. a. I have often found that what is going to happen will happen.
b. Trusting to fate has never turned out as well for me as making a decision to take a definite course of action.
- 160. a. In the case of the well prepared student there is rarely if ever such a thing as an unfair test.
b. Many times exam questions tend to be so unrelated to course work that studying is really useless.
- 161. a. Becoming a success is a matter of hard work, luck has little or nothing to do with it.
b. Getting a good job depends mainly on being in the right place at the right time.

- 162. a. The average citizen can have an influence in government decisions.
b. This world is run by the few people in power, and there is not much the little guy can do about it.
- 163. a. When I make plans, I am almost certain that I can make them work.
b. It is not always wise to plan too far ahead because many things turn out to be a matter of good or bad fortune anyhow.
- 164. a. There are certain people who are just no good.
b. There is some good in everybody.
- 165. a. In my case getting what I want has little or nothing to do with luck.
b. Many times we might just as well decide what to do by flipping a coin.
- 166. a. Who gets to be the boss often depends on who was lucky enough to be in the right place first.
b. Getting people to do the right thing depends upon ability, luck has little or nothing to do with it.
- 167. a. As far as world affairs are concerned, most of us are the victims of forces we can neither understand, nor control.
b. By taking an active part in political and social affairs the people can control world events.
- 168. a. Most people don't realize the extent to which their lives are controlled by accidental happenings.
b. There really is no such thing as "luck."
- 169. a. One should always be willing to admit mistakes.
b. It is usually best to cover up one's mistakes.
- 170. a. It is hard to know whether or not a person really likes you.
b. How many friends you have depends on how nice a person you are.

171. a. In the long run the bad things that happen to us are balanced by the good ones.
- b. Most misfortunes are the result of lack of ability, ignorance, laziness, or all three.
172. a. With enough effort we can wipe out political corruption.
- b. It is difficult for people to have much control over the things politicians do in office.
173. a. Sometimes I can't understand how teachers arrive at the grades they give.
- b. There is a direct connection between how hard I study and the grades I get.
174. a. A good leader expects people to decide for themselves what they should do.
- b. A good leader makes it clear to everybody what their jobs are.
175. a. Many times I feel that I have little influence over the things that happen to me.
- b. It is impossible for me to believe that chance or luck plays an important role in my life.
176. a. People are lonely because they don't try to be friendly.
- b. There's not much use in trying too hard to please people, if they like you, they like you.
177. a. There is too much emphasis on athletics in high school.
- b. Team sports are an excellent way to build character.
178. a. What happens to me is my own doing.
- b. Sometimes I feel that I don't have enough control over the direction my life is taking.
179. a. Most of the time I can't understand why politicians behave the way they do.
- b. In the long run the people are responsible for bad government on a national as well as on a local level.

TEST QUESTIONNAIRE

The following questions are about your attitude toward the kind of test which you can't prepare for. You have probably taken several tests of this kind, such as intelligence tests and scholastic aptitude tests. Please try to remember how you usually feel about these tests.

THE MIDPOINT IS ONLY FOR YOUR GUIDANCE. DO NOT HESITATE TO PUT A MARK (X) ON ANY POINT ON THE LINE THAT SHOWS HOW STRONGLY YOU FEEL.

1. When under the pressure of a testing situation, I work better than I do when on my own time.

work better under pressure midpoint work better on my own time

2. I enjoy taking a test.

enjoy midpoint do not enjoy

3. Before taking an aptitude test, I feel fairly confident that I will do well.

feel confident midpoint do not feel confident

4. Before taking an aptitude test, I am aware of an uneasy feeling.

do not feel uneasy midpoint feel uneasy

5. While taking an aptitude test, I am aware that my heart is beating faster.

heart beats faster midpoint heart does not beat faster

THE MIDPOINT IS ONLY FOR YOUR GUIDANCE. DO NOT HESITATE TO PUT A MARK (X) ON ANY POINT ON THE LINE THAT SHOWS HOW STRONGLY YOU FEEL.

6. Before taking an aptitude test, I tend to worry.

tend to worry midpoint do not tend
to worry

7. While taking an aptitude test, I do not perspire more than I do at other times in school.

do not perspire	midpoint	perspire more than at other times
-----------------	----------	-----------------------------------

8. After I have completed an aptitude test, I worry about how well I have done.

worry about how well I have done	midpoint	do not worry about how well I have done
-------------------------------------	----------	---

9. While taking a hard test, I find that I tend to forget facts that I thought I knew very well.

do not forget facts midpoint forget facts

10. While taking an aptitude test, I wonder about how well I am doing.

do not wonder about how well I am doing	midpoint	wonder about how well I am doing
--	----------	--

11. While taking an aptitude test, I worry about the possibility of failing it.

Worry about failing midpoint do not worry about failing

12. Before I begin an aptitude test, I often feel that I cannot do well.

feel that I cannot do well	midpoint	feel that I can do well
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INSTRUCTOR RATING SCALE

Name of student _____

PLEASE CIRCLE THE NUMBER THAT MOST ADEQUATELY DESCRIBES THE STUDENT

1. Does the student seem to take the initiative when working on a project and then look for additional work when the project is completed?

1	2	3	4	5	6
wastes time on the job and doesn't initiate new tasks			takes initiative when working and looks for additional work		

2. Does the student tend to take risks when working with equipment and materials that could cause injury to self or others?

1	2	3	4	5	6
tendency to take high risks with use of equipment			is very cautious when handling equipment and materials		

3. Does the student seem concerned about the quality of his work in class?

1	2	3	4	5	6
is satisfied with mediocre or below standard work			strives for excellence in a job within the class		

4. Does there seem to be a concern on the part of the student regarding the quality of written or outside work required by the class?

1	2	3	4	5	6
is satisfied with mediocre or below standard work			strives for good quality, neatness, readability, etc.		

5. Is the student conscientious about getting to work on time, starting a job on time, and completing the work on time?

1	2	3	4	5	6
comes in late, is frequently tardy, written work is late			is always on time, prompt, work is done on schedule		

6. Does the student take personal responsibility for his work?

1	2	3	4	5	6
completes work with little personal re- sponsibility, cares little about job & work			has a sense of pride about work which he completes and con- siders his own		

7. Does the student make it easy for others to give feedback?

1	2	3	4	5	6
makes it difficult			makes it easy to give feedback, asks for feedback		

8. How would you rate the student on his or her ability to utilize the feedback when given? Have they made any changes as a result of it?

1	2	3	4	5	6
has not utilized the feedback			has utilized feed- back		

9. How would you rate this student on ability to work effectively and cooperatively with others?

1	2	3	4	5	6
has difficulty in working with others			works very effectively with others		

10. How would you rate this student's persistence on a job?
Does he, or she, stick to a job through its completion?

1	2	3	4	5	6
rarely finishes a job			is extremely per- sistent		

APPENDIX B

MATERIALS UTILIZED IN THE ACHIEVEMENT MOTIVATION
TRAINING PROGRAM

1. Test of Imagination
2. Scoring Key
3. High Achievement Imagery Story
4. Achievement Thinking Review
5. Action Strategies of the High Achiever
6. Origami Game
7. Who Am I
8. Real-Ideal Self Rating
9. Goal Setting Plan

Test of Imagination

The test of imagination is utilized to introduce achievement thinking and to understand participant's thinking. It is a projective technique where participants write brief and imaginative stories based upon pictorial cues. Five minutes is allowed for each story. The following guidelines are utilized in writing the stories.

1. What is happening? Who are the people?
2. What has led up to this situation? That is, what has happened in the past?
3. What is being thought? What is wanted? By whom?
4. What will happen? What will be done?

IMAGINATIVE STORIES SCORING KEY

People with a high need to achieve think about things in a special way. When making up imaginative stories, the characters in their stories think about things in a particular way that we call "achievement thinking." This is because high achievers are in the habit of "achievement thinking." So if we can understand how high achievers think about imaginative stories, we also understand how they think about real life situations. Let's review the different kinds of achievement thoughts.

SCORE YOUR STORY

Were there a lot of achievement thoughts in the story you have just written? Pick out the phrases that express achievement thoughts. Score 1 point for each:

What kinds of Achievement Imagery (AI) did you include?

_____ AI	Competition with others (CO)
	Competition with self (CS)
	Unique accomplishment (UA)
	Long-term involvement (LTI)

What thoughts in your story express

_____ Need (N)	Deeply wanting to achieve something
_____ Action (ACT)	Planned action toward achieving excellence
_____ Hope of Success (HOS)	Expecting success before it is achieved
_____ Fear of Failure (FOF)	Worry about failing before it happens
_____ Success Feelings (SF)	Good feelings after success

_____ Failure Feelings (FF)	Bad feelings after failing
_____ World Obstacles (WO)	World obstacles interfering with a success
_____ Personal Obstacles (PO)	Personal obstacles interfering with success
_____ Help (H)	Help achievers get to achieve success

How many points did you score? _____

Do you see now how you could have added phrases to score additional points?

Add to your story some additional phrases that will give you more points: Now how many total points did you score?

SUMMARY

The different kinds of phrases we have just practiced with the imaginative stories are the kinds of thoughts a high achiever thinks about. You can think about these kinds of thoughts like the things that make a car move.

AI is absolutely necessary to make the system go. Like the electrical system in a car. The different kinds of AI are like the different elements of the electrical system - battery, spark plugs, distributor, etc.

You must have gas (N) to charge the electrical system (AI) into motion. The accelerator (ACT) gets the car moving, after the transmission (HOS and SF) get into gear. You need brakes (FOF and FF) to slow your car down and a steering system (H) to avoid being hit by the other cars (WO) or running into them yourself (PO).

AI = Electrical System

N = Gas

ACT = Accelerator

HOS - SF = Transmission

FOF - FF = Brakes

WO = Other drivers

PO = My bad driving

H = Steering system

Now that you have reviewed how a high achiever thinks, the next step is to further look at the actions of the high achiever.

AN EXAMPLE OF AN IMAGINATION STORY WITH A HIGH SCORE IN
ACHIEVEMENT IMAGERY: STORY I

The younger men are trainees. Their goal is to complete the training program and successfully compete in the outside world. (AI) They are interested in this work and want to be the very best in the trade. (N) They have failed in the past, dropped out of school, and have been unable to obtain good jobs because of their lack of skills and know-how. (PO) Also economic barriers have presented many from obtaining special training, as has employment prejudices prevented many from obtaining certain well paying jobs. (WO) Because of their past experiences they know what it is like to fail and thus are fearful of failing. (FF) But most of the trainees now feel proud and satisfied about beginning to learn some new skills. (SF) They often anticipate the successful completion of the training program and becoming the best in their skill area. (HOS) At other times they feel that they may fail in the new program as they have in some past situations. (FOF)

The students in training are listening to the instructor, asking questions and in general are trying extremely hard to understand every detail of the instruction. (ACT) The instructor, who is interested in the students, encourages and supports their efforts. (H) Because of their own effort and striving, and the help of the instructor, the men will eventually successfully complete the program. Not only will they successfully complete the program, but they will be extremely successful outside in their skill areas. Many will be the best in their trade and will serve as models for others with similar backgrounds. (AT)

ACHIEVEMENT THINKING REVIEW

People with a high need to achieve think about things in a special way. When making up imaginative stories, the characters in their stories think about things in a particular way that we call "achievement thinking." This is because high achievers are in the habit of "achievement thinking." So if we can understand how high achievers think about imaginative stories, we also understand how they think about real life situations. Let's review the different kinds of achievement thoughts.

ACHIEVEMENT IMAGERY (AI)

Achievement imagery is the most important kind of achievement thoughts. If an imaginative story does not have some kind of Achievement Imagery in it, it is not considered a good achievement story.

Here are four sentences with different kinds of Achievement Imagery in them:

1. Bill wanted to become the best football player in the school. (CO)
2. Bill practiced hard so that he was satisfied that he had done his best that day. (CS)
3. Bill practiced kicking field goals soccer-style so that he would be the only one who could do it that way. (UA)
4. Bill worked hard at becoming a good football player to enable him to get a scholarship to college because he wanted to be a doctor. (LTI)

These are the four kinds of Achievement Imagery:

- (CO) Competition with others
- (CS) Competition with self-imposed standards
- (UA) Unique accomplishment
- (LTI) Long-term involvement

Review the four sentences about Bill playing football.
Do you see why each is labeled as it is?

Each of these four kinds of AI shows a desire for excellence. One or more of these kinds of AI is always present in an Achievement Story. A high achiever frequently has AI thoughts. Pick out the AI thoughts in this story:

"Joe wanted to become the first jet pilot to fly a supersonic jet. He worked hard for five years and became the best jet pilot in his company. Due to his high personal standards of safety, he became known as the best in the business and other companies tried to hire him."

CO

CS

UA

LTI

A high achiever frequently shows such a desire for excellence as shown by Joe. After showing AI in one of these ways, the high achiever frequently goes even further in thinking about this desire.

NEED (N)

A high achiever often expresses his desire for excellence as a need (N) for excellence. He does not just wish for success. He needs to succeed. In imaginative stories the high achiever often speaks of this need. This is an example of how he would write an imaginative thought expressing need:

"Jim wanted to win the race. As he came around the last turn he knew that he had to keep driving himself to win. He was determined to cross the line first."

Jim's N is expressed twice. He had to keep driving himself is a statement of need. He was determined is another way to express need. Notice how those words differ from the first sentence. Need is more than just wanting or wishing.

A high achiever thinks of a desire for excellence in such strong terms. That is why he frequently uses these thoughts when making up stories. He also thinks in these terms when doing something in real life.

Complete the following in such a way so that there is some type of Achievement Imagery (AI) in it and so that Art's desire for excellence is stated as a Need (N).

"Art was in the ninth grade at Emerson High School. He was having trouble with algebra.

_____, (AI & N)

What kind of AI did you put in the story?

CO

CS

UA

LTI

What words express Need?

Can you write the end of the paragraph again so as to put another kind of AI in it? Can you state the Need in a different way?

Here is one way it could be done:

"Art was in the ninth grade at Emerson High School. He was having trouble with algebra. Art was the type of boy who liked to win at everything he did. (AI) (CO) In fact, he was so determine to win (N), that he was willing to do almost anything."

If you wanted to add LTI for Achievement Imagery, you could say:

"He knew that he had to do well in algebra so that he could go to college after graduation."
(AI) (LTI)

To add CS, you could say:

"Art knew that he was intelligent enough to do well in algebra if he would only work harder. He was angry at himself for not doing as well as he thought he could in this one subject." (AI) (CS)

To add UA, you might have said:

"He wanted to become a research scientist and discover new products for curing diseases, and he knew that he had to do well in algebra to reach that goal." (AI) (UA)

The last example also includes LTI.

ACTION (ACT)

High achievers think about more than AI and N. They also think about action (ACT) toward the AI. They frequently include action thoughts when writing imaginative stories. These ACT thoughts include some planning, as well as action.

For example:

"Steve wanted to become the best garage mechanic in town and eventually to open his own business. (AI) He knew that he had to work harder than many others in order to satisfy his own ambition. (AI & N) He began to go to night school to improve his mechanical skills, and to learn more about how to run a small business." (ACT)

The last sentence is an action thought. Notice how it is connected to planning. Steve does not just take action. It is planned action, (ACT) taken toward reaching his long-term lifetime plan.

If the writer would have said:

"He decided to go bowling tonight because he liked to bowl."

This would not have been an ACT thought. It would have been unrelated to the AI in the story.

Look back at Art. Write a sentence with ACT in it, for Art. What action could Art take?

Did your ACT thought involve some planning related to the AI in the story?

Now write a sentence to add N and ACT to the following:

"Paul wants to take Betty to the dance Friday night, and is trying to talk to her on the phone before Bob has a chance to ask her. (AI)

. (N)

. (ACT)

HOPE OF SUCCESS (HOS)

High achievers often think about whether they will succeed or not. When they think about hope of success (HOS) they are looking ahead to how it will feel to succeed.

Example:

"Jack wants to be a teacher. He feels confident that he will be a good one, and he is thinking about how good it will feel to finish college and begin to teach in public high school."

(HOS)

Add an HOS thought to the following:

"Carl wants to make the baseball team. He must beat out five others to become the starting first baseman. (AI) He feels he has to do it, to satisfy his own self-respect. (AI & N) He gets up every morning at 5 a.m. to work on conditioning and to practice his fielding. (ACT)

." (HOS)

FEAR OF FAILURE (FOF)

Just as high achievers think ahead to how it will feel to succeed (HOS), they also think ahead about how it will feel to fail (FOF).

Example:

"If he fails to become the starting first baseman, Carl will not be able to face himself, his parents, or his friends." (FOF)

Imagine the following scene:

A boy, about 14 years old, is sitting at a desk with an open book in front of him. You can't tell if he is reading the book or daydreaming.

Make up an imaginative paragraph about him. What is happening? What has led to this situation? What is being thought? What is wanted? By whom? What will happen?

Include AI, N, ACT, HOS, and FOF in the story.

SUCCESS FEELINGS (SF)

When a high achiever has succeeded, he has many success feelings. When writing an imaginative story, he often writes

about success feelings (SF). Success feelings are different from HOS thoughts because they come after success. HOS thoughts come before, and are based on hope for success.

Here is a SF thought:

"When Carl made the team, he felt proud and satisfied." (SF)

FAILURE FEELINGS (FF)

A high achiever also thinks often of how it will feel to fail, as in FOF thoughts.

After it has happened, he will have a strong failure feeling. Change the above sentence about Carl from SF to FF thought.

HOS-FOF VERSUS SF-FF

Which of the sentences below are HOS, FOF, SF, or FF?

1. Len is happy when he gets an A.
2. Len likes to think about becoming a lawyer.
3. Len knows how it will hurt to flunk English.
4. Len felt terrible when Betty said no.

It is unusual for an imaginative story to have all four, HOS, FOF, SF, and FF in it at the same time. See if you can do it! Go back to the story and write additional sentences which could be added to that story to show SF and FF.

Notice how you have to go to something past - in the past tense - to talk about SF and FF. HOS and FOF thoughts talk about success and failure feelings before they happen - in the future.

WORLD OBSTACLES (WO)

High achievers know that there are obstacles in the world that may interfere with efforts to achieve. They think about these obstacles often, and how to try to avoid them. Therefore, when making up stories, high achievers often mention world obstacles (WO). For example:

"Pete wants to join the marines but he needs his parents permission to get in. His parents refuse to sign the permission paper." (WO)

Notice that this obstacle is outside of Pete - it is something in the world that is interfering with his getting into the marines.

There are other obstacles:

PERSONAL OBSTACLES (PO)

If an obstacle to achievement is within a person, it is called a personal obstacle (PO). For example:

"Pete wants to join the marines but he can't pass the physical examination." (PO)

High achievers often anticipate WO and PO when thinking about their own lifetime situations. Therefore, when they write imaginative stories, they frequently have one of their characters in the story think about WO or PO.

HELP (H)

Most obstacles can be anticipated and avoided if you get help (H). In many imaginative stories by high achievers, they include some thoughts about getting help, to avoid or help overcome WO and PO.

How could Pete get help (H) to overcome his WO and PO so that he could enlist in the marines?

SUMMARY OF ACHIEVEMENT THINKING

ACHIEVEMENT IMAGERY (AI)	Desire for excellence
Competition with others	(CO) All 4 kinds of AI show a
Competition with self	(CS) desire for excellence. At
Unique accomplishment	(UA) least 1 kind of AI must be
Long-term involvement	(LTI) in an achievement story.
NEED(N)	Deeply wanting to achieve something
ACTION (ACT)	Planned action toward achieving excellence
HOPE OF SUCCESS (HOS)	Expecting success before it is achieved
FEAR OF FAILURE (FOF)	Worry about failing before it happens
SUCCESS FEELINGS (SF)	Good feelings after success
FAILURE FEELINGS (FF)	Bad feelings after failing
WORLD OBSTACLES (WO)	World obstacles interfering with success
PERSONAL OBSTACLES (PO)	Personal obstacles interfering with success
HELP (H)	Help achievers get to achieve success

Scoring--If you could give one point to yourself, for every one of the above, how many points could you get?

(Remember, you only get one point for Achievement Imagery (AI) no matter how many kinds of AI you have.) _____

How many points could you get if you didn't have some kind of Achievement Imagery (AI) in a story? _____

Do you think you can write an imaginative story like a high achiever does?

SCORE YOUR STORY

Were there a lot of N Ach thoughts in the story you have just written? Pick out your phrases that express N Ach thoughts about this picture:

Score 1 point for each:

What kinds of Achievement Imagery (AI) did you include?

_____ AI

Competition with others (CO)

Competition with self (CS)

Unique accomplishment (UA)

Long-term involvement (LTI)

What thoughts in your story express:

_____ Need (N)

_____ Action (AC)

_____ Hope of Success (HOS)

_____ Fear of Failure (FOF)

_____ Success Feelings (SF)

_____ Failure Feelings (FF)

_____ World Obstacles (WO)

_____ Personal Obstacles (PO)

_____ Help (H)

How many points did you score? _____

Do you see now how you could have added phrases to score additional points?

Add to your story some additional phrases that will give you more points:

Now how many total points did you score? _____

Look back over your story. What kinds of AI did you fail to include in your story?

AI

CO
CS
UA
LTI

Many people include CS and sometimes CO, but do not include LTI or UA in their imaginative stories.

If a person doesn't think about UA, what might this mean about the way he acts?

If one doesn't think about LTI, what might this mean about the way one acts?

Look back over the first part of your story. What kinds of N Ach thinking did you forget to include at first?

N	FF
ACT	WO
HOS	PO
FOF	H
SF	

Many people forget FOF or FF. If one forgets about FOF or FF, what happens?

Another thing a lot of people forget is WO or PO. If you forget about WO or PO, what happens?

A lot of people don't think about the different kinds of H that are available. What happens to them?

Do you see how thinking about things in a certain way can help people to be more successful?

The different kinds of phrases you have just practiced are the kinds of thoughts a high achiever thinks about. You can think about these kinds of thoughts like the things that make a car move.

AI is absolutely necessary to make the system go. Like the electrical system in a car. The different kinds of AI are like the different elements of the electrical system - battery, spark plugs, distributor, etc.

You must have gas (N) to charge the electrical system (AI) into motion. The accelerator (ACT) gets the car moving, after the transmission (HOS and SF) get into gear. You need brakes (FOF and FF) to slow your car down and a steering system (H) to avoid being hit by the other cars (WO) or running into them yourself (PO).

AI = Electrical System
 N = Gas
 ACT = Accelerator
 HOS - SF = Transmission
 FOF - FF = Brakes
 WO = Other drivers
 PO = My bad driving
 H = Steering system

Now that you have reviewed how a high achiever thinks, the next step is to further look at the actions of the high achiever.

FOUR BASIC ACTION STRATEGIES

The following four behaviors have been found to characterize the high achieving person. These characteristics combine to comprise an energetic and innovative individual who is highly concerned with improvement, doing things faster, better, more efficiently, more economically.

1. MODERATE RISK TAKING:

In a new situation where a person must rely on his own skill, the high achiever takes carefully calculated moderate risks. He sets goals that are challenging, and not goals that are unreasonably difficult or goals that are too simple and undemanding.

2. USE OF IMMEDIATE CONCRETE FEEDBACK TO MODIFY GOALS:

This person likes to know how well he is doing. Thus, he seeks situations that offer regular concrete feedback about his progress or lack of it, and uses the feedback to modify his goals or behavior.

3. PERSONAL RESPONSIBILITY:

People with high need to achieve like to test how much they can do. They like situations where they can take personal responsibility for successes and failures. Typically, they initiate activities in which they can assume personal responsibility.

4. RESEARCHING THE ENVIRONMENT:

Persons with high need achievement approach new situations with a style that is alert, curious, and intentional. They might be described as "sizing up" the situation, checking out the limits and the possibilities--with the end in mind of accomplishing a goal or moving toward it.

GOALS OF THE ORIGAMI GAME

The game promotes learning at three levels:

1. On the first level the game provides an intense experience of achievement planning, feeling and actions. The game sequence calls for each player to size up the situation, make judgments about what his possibilities are, and then choose how to compete most successfully. The process as a whole requires him to appraise realistically his abilities in this particular situation. The players will probably find themselves weighing such questions as, "Am I skillful or clumsy at tasks such as this?" or "Does time pressure spur me on or make me nervous?" or "How can I do better in this next round?: or "Shall I compete against others or just try to do better than I did last time?" The player sets his own goals on the basis of feedback about his performance, and takes personal responsibility for the outcome. This type of planning, action, and feelings, exemplifies the achievement motive. Thus, the game is used first to let players fully experience the nature of achievement motivation.
2. On the second level, after the game, players conceptualize their experience. Players reflect back on their planning, actions, and feelings and discuss their own reactions to various kinds of competition. A player may come to realize, for instance, that he likes to compete against himself but not against others, or that he is more comfortable as a group member than working on his own. In general, students can conceptualize the thoughts, actions and feelings of achievement motivation much more clearly after an intense experience such as this game. If they have experienced the motive, and understood the experience, they will be more able to apply n-Ach to their own lives.

3. On a third level there is an opportunity to consider the relevance of this game to other situations. As the leader of this game you may want to compare aspects of the game situation to the classroom learning process, to work situations, to athletics, and to hobbies. Why do people get so caught up in the game? How can that same emotional involvement be generated in other school situations? What must "players" in regular school situations be able to do? What kinds of competition, scoring systems, and decision-making must be available? What would school be like if teachers had the same role as the leader of the origami game?*

*Published by Education Ventures. The Origami Game may be ordered from Education Ventures, 209 Court Street, Middletown, CN 06457.

WHO AM I

Here is still another way to identify yourself more fully. Finish the sentences below as quickly as you can, without thinking too hard about them or trying to think about pleasing anyone but yourself.

What I'd most like to know is

What bugs me the most is

I really get a lot of pleasure when I

I really get a lot of pleasure when I

I'd like my friends to

Something I want that I haven't told anybody about before is

What I'd really like to be doing in five years is

The best way I can think of to use my spare time is

If I were President, the first thing I would do is

My idea of a good job is

If I could spend all my time in one course at school, it would be

My idea of a good place to live is

The thing I'd like people to admire me for is

After you've completed these sentences, your group should break up into groups of three. Trade papers and compare answers. Do the other two people in your group feel that you really came across in the things you've said, so that they have a better idea of who you are? They should tell you, and you should tell them, if anyone thinks the sentences aren't clear or honest. Change your sentences if you think they can really tell more about you.*

*Published by Education Ventures. Additional materials similar to the incomplete sentence exercise can be obtained from: Education Ventures, 209 Court Street, Middletown, Connecticut 06457.

SELF RATING

The following scale is an aid to greater self understanding and self improvement. The list of characteristics are related to work. They include items that are important on a job. After each characteristic there are three columns: real self score, ideal self score, and difference score. In the first column we will honestly rate ourself as to how we really are in relation to the characteristic. In the second column we will rate ourself as to where we ideally would like to be, and in the third column we will state our difference score.

(The scale ranges from one to ten)

1 = Lowest possible rating 10 = Highest possible rating

ON THE JOB CHARACTERISTICS

<u>On the Job Characteristics</u>	<u>REAL SELF SCORE</u>	<u>IDEAL SELF SCORE</u>	<u>DIFFERENCE SCORE</u>
1. Promptness to work	_____	_____	_____
2. Meets deadlines at work	_____	_____	_____
3. Follows directions	_____	_____	_____
4. Sticks to a job until finished	_____	_____	_____
5. Able to work under close supervision	_____	_____	_____
6. Able to continue with work when not closely supervised	_____	_____	_____
7. Takes pride in work	_____	_____	_____

<u>On the Job Characteristics</u>	<u>REAL SELF SCORE</u>	<u>IDEAL SELF SCORE</u>	<u>DIFFERENCE SCORE</u>
8. Asks for more work when finished with original job	_____	_____	_____
9. Takes pride in work	_____	_____	_____
10. Asks questions about work	_____	_____	_____
11. Expresses interest in job	_____	_____	_____
12. Accepts criticism of work by supervisor (teacher)	_____	_____	_____
13. Benefits and uses criticism to one's advantage	_____	_____	_____
14. Cooperates with supervisor (teacher)	_____	_____	_____
15. Cooperates with other workers on various tasks	_____	_____	_____
16. General attitude towards work	_____	_____	_____
17. Finds meaning in work	_____	_____	_____
18. Gets along with super- visor	_____	_____	_____
19. Gets along with other workers	_____	_____	_____
20. Shows signs of maturity on the job	_____	_____	_____
21. Takes personal responsi- bility on the job (cleans up, etc.)	_____	_____	_____
22. Keeps working area clean	_____	_____	_____
23. Works beyond the call of duty	_____	_____	_____

On the Job Characteristics	<u>REAL SELF SCORE</u>	<u>IDEAL SELF SCORE</u>	<u>DIFFERENCE SCORE</u>
24. Degree of neatness (written work)	_____	_____	_____
25. Degree of neatness (nonwritten projects)	_____	_____	_____
26. Makes plans each day for work to be accomplished	_____	_____	_____
27. Level of communication with supervisor	_____	_____	_____
28. Sets goals for learn- ing; either weekly, monthly, or for semester	_____	_____	_____
29. Checks papers or has others check written work before turning it in	_____	_____	_____
30. Pays attention to what is going on in class or on the job	_____	_____	_____
31. Doesn't give up easily when tackling a task	_____	_____	_____
32. Attends the job (Class) regularly	_____	_____	_____
33.	_____	_____	_____
34.	_____	_____	_____
35.	_____	_____	_____

After completing the above characteristic profile you should pick out one or several characteristics that reveal a high difference score and/or that you are really interested in improving on. You should then list them under Characteristics to further improve upon.

CHARACTERISTICS TO FURTHER IMPROVE UPON SET SPECIFIC GOAL

- | | |
|---------------------------|---|
| 1. eg. Promptness to work | I will not be late to class again through the end of January. |
| 2. | |
| 3. | |
| 4. | |

After goals are clearly stated, the next step is to develop the kind of action strategies that are needed to accomplish the goals.

These are the things that will be done in order to insure success!!!!!!

ACTIONS

1. eg. Do not stop off on way to work
2. Call in immediately if some outside source prevents me from getting to work
3. Go directly to class or work when in building

ACHIEVEMENT PLAN

The Achievement Plan is designed to help you create a plan for attaining a goal which is important to you. The steps in the plan are modeled after the way a person with high need for achievement plans to achieve his goals. Following these steps should help you improve your ability to achieve goals.

Pick the goal or goals, you most want to work on in the next two months. In choosing this goal you should consider the following issues:

1. Importance of the goal.
2. Ease of attainment.
3. Whether the goal is in conflict with other goals (and would therefore require working on those other goals).

The main thing is to get clearly in mind what you are striving for. To help you do this, we include the following goal definition form for your use. As you can see, it is patterned after the n Achievement scoring categories.

Goal Definition Form

State as exactly as possible the goal you want to achieve in the next 2 months. _____

Now think about your goal in some of the following Achievement categories.

(N) How important is it that you achieve this goal? _____

(TH) How does this goal relate to your long term goals?

What conflicts are there? _____

(SF) How will you feel when you attain this goal? (Try to imagine yourself with the goal achieved. What are your feelings?) _____

(FF) How will you feel if you do not attain this goal?

(Try to imagine again. What are your feelings?) _____

(HOS) What do you think about your chances of succeeding?

What will happen if you do succeed? _____

(FOF) What will happen if you fail? _____

Now that you have defined your goal, the next step is to plan how to achieve it. The n Achievement scoring system has four categories which will help you do this:

1. Personal shortcomings to be overcome (PO)
2. Obstacles in the world to be overcome (WO)
3. Actions which you can do to achieve your goal (ACT)
4. Help you can get from others (H)

The first two categories refer to things which can prevent you from reaching your goal. The last two categories refer to things which you and others can do to achieve your goal.

Removing Obstacles

What personal shortcomings will keep me from achieving my goal?

1. _____
2. _____
3. _____
4. _____

What obstacles in the world will keep me from achieving my goal?

1. _____
2. _____
3. _____
4. _____

What can I do to eliminate or lessen the effect of any of these obstacles or shortcomings? (Note that you need not eliminate the block entirely. Anything you can do to lessen the force of the obstacle will start you moving toward your goal.)

Obstacle	What I can do about it
_____	_____

Obstacle

What I can do about it

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Planning Action

What specific things can I do which will move me toward my goal?

1. _____
2. _____
3. _____
4. _____
5. _____

Circle the one which you are going to emphasize the most.

Who can help me
achieve my goals?

What will I ask of them?

- | | |
|----------|-------|
| 1. _____ | _____ |
| _____ | _____ |
| 2. _____ | _____ |
| _____ | _____ |
| 3. _____ | _____ |
| _____ | _____ |
| 4. _____ | _____ |
| _____ | _____ |

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